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ANALYTICAL RESULTS REPORT
for a
COMBINED SITE INSPECTION and REMOVAL ASSESSMENT

SMURFIT-STONE MILL
Near Missoula, Missoula County, Montana

TDD Nos. 1105-09 and 1109-07

August 20, 2012

URS
OPERATING SERVICES, INC.

In association with:
Garry Struthers Associates, Inc.
LT Environmental, Inc.
TechLaw, Inc.
Tetra Tech EMI
TN & Associates. Inc.

ANALYTICAL RESULTS REPORT
for a combined
SITE INSPECTION
and
REMOVAL ASSESSMENT
at the
SMURFIT-STONE MILL
Near Missoula, Missoula County, Montana

(CERCLIS ID #: MTN000802850)

EPA Contract No. EP-W-05-050
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Prepared By:
Jeff Miller
Senior Environmental Scientist

URS Operating Services, Inc.
999 18th Street, Suite 900
Denver, CO 80202-1908

Approved: _____ Date: 8-30-12
Joyce Ackerman, On-Scene Coordinator, EPA, Region 8

Approved: _____ Date: 8/30/12
Robert Parker, Site Assessment Manager, EPA, Region 8

Approved: _____ Date: 8/20/12
Charles W. Baker, START 3 Program Manager, UOS

Approved: _____ Date: 8/20/12
Jeff Miller, Project Manager, START 3, UOS

DISTRIBUTION LIST

U.S. ENVIRONMENTAL PROTECTION AGENCY

Joyce Ackerman (1 electronic copy)	On-Scene Coordinator, EPA Region 8
Robert Parker (2 copies)	Site Assessment Manager, EPA Region 8

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TABLE OF CONTENTS

TABLE OF CONTENTS, cont.

PAGE #

FIGURES

TABLE OF CONTENTS, cont.

TABLES

APPENDICES

1.0 INTRODUCTION

This Analytical Results Report (ARR) for a combined Site Inspection (SI) and Removal Assessment (RA) of the Smurfit-Stone Mill site (CERCLIS ID# MTN000802850) near Missoula, Missoula County, Montana (Figure 1) is submitted in accordance with the task elements specified in Technical Direction Documents (TDD) No. 1105-09 and 1109-07, issued to URS Operating Services, Inc. (UOS) by the Region VIII office of the U.S. Environmental Protection Agency (EPA) under Superfund Technical Assessment and Response Team 3 (START) contract # EP-W-05-050. This report has been prepared in accordance with the EPA "Guidance for Performing Site Inspections under CERCLA," Interim Final, September 1992 (EPA 1992a), and the "Region 8 Supplement to Guidance for Performing Site Inspections under CERCLA" (EPA 1993). This ARR is intended to be read in conjunction with the Smurfit-Stone Mill Preliminary Assessment (PA) (UOS 2011a), the Smurfit-Stone Mill Field Sampling Plan (FSP) (UOS 2011b), and the Smurfit-Stone Mill Sampling Activities Report (SAR) (UOS 2011c).

UOS conducted field work at the Smurfit-Stone Mill site during the week of October 23, 2011, and the final sample shipment occurred on November 2, 2011. UOS was also tasked with collecting split samples for the owner of the facility, M2Green Redevelopment, LLC (M2Green), through their consulting firm Hydrometrics, Inc. Robert Parker, Site Assessment Manager for the EPA, was present on site and accompanied UOS in the field on October 24. Joyce Ackerman, On-Scene Coordinator for the EPA, was also present on site and accompanied UOS in the field from October 25 through 29. The field work followed the Site Inspection (SI) format, the applicable UOS Technical Standard Operating Procedures (TSOPs) (UOS 2005b), and the Generic Quality Assurance Project Plan (UOS 2005a).

Field activities specifically included the collection of 75 field environmental samples comprised of 17 surface soil/source (0-2 feet below ground surface [bgs]) samples, 8 subsurface soil/source (>2 feet bgs) samples, 20 co-located surface water and sediment samples (from 10 locations), 21 groundwater samples (collected from existing monitoring and domestic wells, as well as newly installed monitoring wells), and 9 field Quality Assurance/Quality Control (QA/QC) samples, which included 2 surface soil replicates, 2 groundwater duplicates, 1 rinsate, and 2 trip blanks (in addition to the laboratory matrix spike/matrix spike duplicates [MS/MSD]) (Table 8) (UOS 2011c).

Samples that were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and polychlorinated biphenyls (PCBs [aroclors]) were shipped via FedEx to the EPA Contract Laboratory Program (CLP) Routine Analytical Services (RAS) laboratory, Spectrum Analytical, Inc. (aka

Mitkem Laboratories), in Warwick, Rhode Island. Samples that were analyzed for metals (total metals for soils and sediments, both total and dissolved metals for water samples) were shipped via FedEx to the EPA CLP RAS laboratory, Chemtech Consulting Group, Inc., in Mountainside, New Jersey. Samples that were analyzed for chlorinated dibenzo-p-dioxins and chlorinated dibenzofurans (CDDs/CDFs) (dioxins and furans) were shipped via FedEx to ALS Laboratory Group in Salt Lake City, Utah, and then forwarded to ALS Laboratory Group in Burlington, Ontario, Canado which is a laboratory procured by UOS outside of the EPA CLP, as the EPA CLP was unable to perform the non-RAS analyses during the time of the assessment.

Groundwater and soil samples analyzed for asbestos were hand-delivered to the Reservoirs Environmental, Inc. laboratory in Denver, Colorado.

The following issues were noted upon laboratory receipt of samples:

- The inorganics CLP laboratory received several total and dissolved metals samples with duplicate CLP IDs. New CLP IDs were assigned to the dissolved metals samples. Analytical results tables in this ARR report reflect up-to-date CLP ID numbers.
- The interior temperature of shipment coolers is supposed to be 4°C +/- 2°C. A number of coolers with organic samples were received with temperatures ranging from 6.5°-10° C. Reasons for this include that some shipments were bumped by FedEx and arrived later than expected, and that the private laboratory procured for dioxin and furan analysis forwarded samples to another laboratory in Canada.
- Approximately 18 glass sample jars were broken in shipment. However, sufficient jars were collected at each location so that enough volume to run each sample was received by the laboratory. Nonetheless, in a few cases re-analysis of samples was not an option, if needed.
- Soil/sediment samples to be analyzed for VOCs were collected in 4 oz. glass jars, which is not recommended under current EPA CLP sampling requirements, but is an acceptable method of sample collection. Due to shipping issues, some samples were also analyzed outside hold time according to CLP sampling requirements. Analytical data from these samples have been validated and are included in this report with validation qualifiers as appropriate.

All other samples were received by the laboratories in good condition, within holding times, and with the cooler custody seals intact.

All CLP and private laboratory data, with the exception of those for asbestos, were validated by third party subcontracted chemists at TechLaw, Inc. No significant data quality issues were identified during the data validation. CLP Form 1 documents and the data validation reports are presented under separate cover in Appendix E.

This report presents the analytical results for characterization of the on-site sources and targets potentially impacted in the groundwater, soil exposure, and surface water pathways. The air pathway is also discussed (Section 8.0). Field observations are presented in the SAR, and project photos are presented in Appendix A.

2.0 OBJECTIVES

This investigation was completed as a combined SI and RA, which have similar objectives in terms of data collection but utilize the data for different purposes. An SI evaluates information gathered with regard to the EPA's Hazard Ranking System (HRS) criteria for the purpose of determining whether additional investigation is warranted, and if the site is a potential candidate for the national priorities list (NPL). An RA evaluates information gathered to determine if an immediate threat exists to the environment or to human health, such that a removal action should be conducted immediately.

It should be noted that this sampling event did not examine every potential source area of the mill property (e.g., the industrial core of the facility, underground and aboveground storage tank locations) and, therefore, should not be used in isolation to determine any future regulatory requirements for the site.

The specific objectives of this combined RA and SI were to:

- Confirm suspected source areas, and evaluate each by HRS criteria (including volumes, containment, and contaminant characteristics);
- Determine if contaminants have been transported from site sources, or are likely to be transported from site sources through erosion or in the event of catastrophic flooding of the site, to the Clark Fork River or O'Keefe Creek, through direct discharge or through surface or groundwater;
- Determine if contaminants have been transported from the site to nearby domestic groundwater wells, and if so, to determine if contamination is present above appropriate water quality standards and benchmarks;

- Evaluate if an exposure threat from site contaminants exists to on-site workers or other persons accessing the mill property, domestic groundwater users near the site, or the environment, particularly to surface water receptor targets (e.g., in the Clark Fork River and O'Keefe Creek); and
- Document the recreational use (particularly for fishing) of the Clark Fork River in the vicinity of the mill.

3.0 SITE LOCATION AND DESCRIPTION

The Smurfit-Stone Mill is located in west-central Montana, approximately 11 miles northwest of the town of Missoula, Montana, in Missoula County (Figure 1). The Smurfit-Stone Mill was a large integrated pulp and paper mill that was in operation from 1957 through early 2010 (Photos 1, 2, 38 in the PA report) (UOS 2011a). The mill is located approximately 3 miles south of the town of Frenchtown and, therefore, has often been referred to as the Frenchtown Mill. The facility address is 14377 Pulp Mill Road, Missoula, Montana, and the coordinates of the center of the industrial core of the mill facility are 46.963502° north latitude and 114.200120° west longitude. The mill covers approximately 3,150 acres (Figure 1).

The mill site is located in the northeastern portion of the U.S. Geological Survey (USGS) Primrose Quadrangle Map (USGS 1999). For planning purposes under this assessment, the site boundary was defined by the outside perimeter of the land parcels that constitute the mill property. The legal description of these parcels is provided in Appendix A of the PA report, and the site boundary is shown in Figures 1 and 2 (Montana Department of Revenue [MDR] 2011). The western boundary of the site is the Clark Fork River, with the site having approximately 3.6 miles of river frontage (Photos 1, 6, 13, 14 in the PA report) (UOS 2011a). For this ARR, the site boundaries have been redefined as the outside perimeter of the confirmed sources identified at the site (e.g., sludge ponds) (Figure 3).

Under the HRS, the downstream target distance limit (TDL) of the site (for the groundwater pathway) is defined as a 4-mile radius surrounding the outside perimeter of the site sources, and the Clark Fork River (for the surface water pathway) to a distance 15 miles downstream of the mill site probable point of entry (PPE) (Figure 1). This TDL includes the confluences of creeks draining into the Clark Fork River (Deep, Albert, O'Keefe, Mill, Sixmile, and Ninemile Creeks), as well as the Frenchtown Ponds State Park and portions of the Lolo National Forest. The site lies within the Montana Audubon Clark Fork River – Grass Valley Important Bird Area (Montana Audubon 2009).

The mill site lies within the Clark Fork River valley and is generally flat, with an elevation range from approximately 3,070 feet near the core industrial area of the mill to approximately 3,040 feet at the Clark Fork River in the northwest corner of the site. Elevations within the 4-mile radius range from approximately 3,015 feet within the Clark Fork River valley to the northwest to nearly 5,000 feet in the mountains to both the east and west sides of the site.

The core industrial footprint of the 3,150-acre mill site covers approximately 100 acres. Over 900 acres of the site consist of a series of unlined ponds used to store both treated and untreated wastewater effluent from the mill, as well as primary sludge recovered from untreated wastewater. Additional unlined ponds were also subsequently used for landfilling various solid wastes produced at the mill. Much of the remaining acreage of the site (approximately 1,800 acres) is used for agricultural purposes, with over 1,200 acres of grasslands for cattle grazing and over 600 acres irrigated for alfalfa and grain crops (MDR 2011, Montana County Rural Initiatives 2010).

Source areas on the site confirmed through chemical analysis include four sludge ponds (sludge ponds 3, 4, 5, and 17), an emergency spill pond (pond 8, with two separate cells), an exposed soil pile adjacent to landfill A, one wastewater storage pond (pond 2), and a soil landfarming area (Tables 9 through 18, Figure 2). Additional potential sources at the site that were not characterized as part of this assessment include 11 additional wastewater storage ponds, 3 wastewater treatment aeration basins, and 2 polishing ponds. Only the four sludge ponds, the emergency spill pond, one wastewater storage pond, and the landfarming area were targeted for sampling during this assessment, as they were determined to have the highest potential for containing hazardous substances, or, in the case of the wastewater storage pond, were determined to be the most at risk in the event of a catastrophic flood.

4.0 SITE BACKGROUND

4.1 SITE HISTORY

The site began operation as a pulp mill in the fall of 1957. Later expansions and improvements allowed the facility to produce paper, primarily rolls of kraft linerboard that is used in the production of corrugated containers (i.e., the outside layers of cardboard boxes). Linerboard produced at the mill was shipped to box plants where it was used to make a variety of corrugated containers (Smurfit-Stone undated). The mill also produced bleached pulp from 1960 through 1999. The mill ceased operations in January 2010.

A brief timeline of the mill's history is provided below. A more detailed history of the site, including an expanded timeline and process descriptions, may be found in Section 3.0 of the PA report (UOS 2011a).

- 1957: Pulp mill begins operation in November with a production capacity of 250 tons per day (tpd) of kraft pulp.
- 1958: First wastewater storage ponds constructed in August following complaints of fish kills, foam, and discoloration in the Clark Fork River. Allowable discharges to river occur only during high flow periods (March through June).
- 1960: First paper machine and bleaching operation installed. Production increases to 450 tpd of linerboard and 150 tpd of bleached pulp.
- 1966: Second paper machine and two continuous digesters are installed. Capacity increased to 1,150 tpd, of which 150 tpd is bleached pulp.
- 1969: Primary clarifier installed to remove suspended solids from wastewater prior to storage in settling ponds.
- 1974-1975: Mill installs secondary treatment aeration basins and three experimental "rapid infiltration" percolation ponds. Seven hundred acres of settling ponds are in existence. One-third of wastewater effluent is discharged directly to Clark Fork River following primary (clarifier) and secondary treatment.
- 1977: Three-year $170 million expansion to increase capacity to 1,850 tpd. Majority of wastewater (63 percent) is being disposed of through rapid infiltration ponds.
- 1980: Third paper machine and a waste wood boiler for power generation installed.
- 1984: Montana Department of Health and Environmental Services (MDHES) issues 2-year temporary permit allowing year-round direct discharge to the Clark Fork River (only if flows were greater than 1,900 cubic feet per second [cfs]) and begins study to determine its effects on river. Only 14 percent of wastewater is infiltrating through ponds.
- 1986: Stone Container Corporation purchases mill.

- 1988: Stone Container Corporation completes construction of color removal treatment system.
- 1990: Old Corrugated Container (OCC) facility added to recycle (repulp) old cardboard containers.
- 1993: Pulp mill production is approximately 1,900 tons of pulp per day (1,500 tons of virgin kraft pulp from wood chips and 400 tons from repulping old corrugated containers).
- 1997: Sludge dewatering facility constructed and becomes operational.
- 1999: Bleaching plant operations cease, color removal plant treatment discontinued.
- 2001-2004: Business conditions curtail production to 1,600 tpd of linerboard from 1,100-1,200 tpd of virgin pulp and 550 tpd of recycled pulp from the OCC.
- 2009: Smurfit-Stone files for Chapter 11 bankruptcy in January.
- 2010: Smurfit-Stone emerges from bankruptcy, but shuts down mill in January.
- 2011: Mill property purchased by MLR Investments in March. Mill property purchased by M2 Green (Green Investment Group Incorporated) in May.

4.2 SITE CHARACTERISTICS

4.2.1 Physical Geography

The Smurfit-Stone Mill site is located within Missoula Valley of the Clark Fork Basin. The basin is bounded by the Continental Divide on the east and south, the Montana-Idaho state line on the west, and the Flathead River-Clark Fork divide to the north. The Valley has an area of about 180 square miles and is drained by the Clark Fork River, Ninemile Creek, and their tributaries (USGS 1999).

The mill site is generally flat, with an elevation range from approximately 3,070 feet near the core industrial area of the mill to approximately 3,040 feet at the Clark Fork River in the northwest corner of the site. Elevations within the 4-mile radius range from approximately 3,015 feet within the river valley to the northwest to nearly 5,000 feet in the mountains to both the east and west of the site.

4.2.2 Geology and Hydrogeology

The Missoula Valley was flooded and drained during successive glaciations and interglaciations in the Pleistocene Epoch (1 million years ago to 25,000 years ago). About 12,000 years ago, the Missoula Valley lay beneath a lake nearly 2,000 feet deep. Glacial Lake Missoula formed as the Cordilleran Ice Sheet dammed the Clark Fork River just as it entered present day Idaho. Fill from the lake is estimated to have reached a maximum depth of 3,000 feet within the valley (Montana Bureau of Mines and Geology [MBMG] 1965).

The mill site is underlain by alluvial sands and gravels, bounded on the west side of the Clark Fork River by Precambrian bedrock and by fine-grained Lake Missoula deposits immediately east. The shallow alluvial sands and gravels are approximately 25 to 35 feet thick beneath the mill site and thin to the east. Depth to groundwater across the site during field work for this assessment varied from 6.5 bgs adjacent to the Clark Fork River in the northwest portion of the site (as measured within existing monitoring well SMW-18) to 26.25 feet bgs at the landfill A area (measured from an installed Geoprobe well). Fine-grained Lake Missoula sediments (clays and silts) extend beneath the shallow alluvial gravels and are approximately 120 to 150 feet thick. The Lake Missoula sediments are underlain by a thick coarse-grained alluvial aquifer. This deeper aquifer system is the principal aquifer for water supply in the area, including Smurfit-Stone's production wells (MBMG 1998, Hydrometrics and Inskeep 2004).

The fine-grained Lake Missoula sediments have a reported vertical permeability of 3.5 x 10^{-5} centimeters per second (cm/s). The estimated hydraulic conductivity of the deep alluvial aquifer is 5.3 x 10^{-1} cm/s (Grimestad 1992). Conformational aquifer testing was beyond the scope of this investigation.

4.2.3 Meteorology

The mill site is located in a semiarid climate zone. Prevailing wind direction is from the northwest. The mean annual precipitation as totaled at the Missoula International Airport is 13.81 inches (National Oceanic and Atmospheric Administration [NOAA] 2011a). The 2-year, 24-hour rainfall event for this area is 1.37 inches (NOAA 2011b).

4.2.4 Hydrology

The Clark Fork River forms the majority of the 3.6-mile-long western property boundary of the site, flowing from the south to the north (Figure 1). The Clark Fork drains an area of 9,003 square miles, and average annual flow for the river, measured at a USGS gauging station below Missoula (USGS station #12353000) from 1930 through 2010, is 4,169 cfs (USGS 2011). During the time of the investigation, the discharge of the Clark Fork averaged 3,828 cfs.

O'Keefe Creek flows from east to west across the southern extent of the mill property, adjacent to ponds 17 (sludge), 1A, and 2 (both treated wastewater storage) (Figure 2). During the investigation, UOS collected flow measurements from O'Keefe Creek using a Marsh-McBirney Model 2000 flow meter, recording the flow rate as 1.3475 cfs (Appendix D).

In 2012, the Montana Natural Heritage Program (MTNHP) completed provisional wetland mapping for the area covered by the Primrose Quadrangle Map (Appendix E). This inventory identifies many individual palustrine emergent and scrub-shrub wetlands occurring along the Clark Fork River along the western border of the mill property. A narrow stretch of wetland is also mapped within O'Keefe Creek, along the eastern border pond 1A. Many site ponds also contain wetlands, although only a few of these (e.g., pond 13) contain wetlands that may be eligible for scoring under the HRS (i.e., if it can be shown that eligible wetlands existed in this area prior to the construction of the pond).

4.3 PREVIOUS INVESTIGATIONS

Previous environmental investigations at the site appear to have been undertaken, by both the mill and by the MDHES, primarily to document surface and groundwater quality in an effort to understand and address nutrient loading to the Clark Fork River. For example, beginning in 1983 the MDHES conducted a 2-year study to determine the effects of year-round direct discharge of wastewater from the mill to the Clark Fork River (MDHES 1985). The study documented nutrients, suspended solids, dissolved oxygen, ammonia and metals, and color concentrations in the river; investigated its ecological health (e.g., macro-invertebrate sampling); and identified aesthetics (especially the appearance of foam and colored water), groundwater pollution of the

shallow aquifer, and ongoing air quality degradation (especially odor and particulates) as areas of concern.

The 1995 MPDES discharge permit required the mill to conduct a surface water mixing zone study to delineate the boundary condition of the mixing zone for the direct discharge of wastewater to the Clark Fork River (Hydrometrics 1996). The finding of this study determined that the downstream monitoring station for the mill (i.e., the Huson sampling station located 6 miles downstream from the site) was a valid location for compliance monitoring and a reasonable location for determination of the mixing zone boundary.

The MPDES permit issued in 2000 required that the mill delineate the groundwater mixing zone boundary condition, defined as the extent of travel of seepage where the groundwater concentration for total dissolved solids (TDS) was greater than or equal to 500 milligrams per liter (mg/L). The permit also required Smurfit-Stone to monitor groundwater wells (Photo 11) for the purpose of establishing correlation factors for concentrations of nutrients between newer and older monitoring wells. This investigative work was completed in November 2004 and found that groundwater with TDS concentrations > 500 mg/L was largely contained between Marcure Lane on the north, Mullan Road on the east, and the Clark Fork River to the west; and that water quality sampling within seven residential wells near the crossgradient (to the north) boundary of the mixing zone showed high quality drinking water with no influence of process wastewater constituents or TDS from the shallow alluvial groundwater system (Hydrometrics and Inskeep 2004).

Environmental compliance monitoring performed at the site included the following (EPA 1993, Montana Department of Environmental Quality [MDEQ] 2010b, Smurfit-Stone 2004):

- Wastewater discharge: nutrients (nitrogen and phosphorus), pH, biochemical oxygen demand (BOD), total organic carbon (TOC), total suspended solids (TSS), ammonia, color, and toxicity, with occasional testing for dioxins;
- Non-contact cooling water discharge: oil sheen, foam, temperature, and weekly pH;
- Groundwater: nutrients, color, sodium, and BOD every 2 months to determine seepage contribution the Clark Fork River;
- In-stream monitoring of the Clark Fork River: color, temperature, dissolved oxygen, and nutrients; and

- Air: total reduced sulfur, opacity, NOx, sulfur dioxide, total suspended particulates, and particulate matter smaller than 10 microns in diameter (PM10).

Site assessments have apparently been performed at six of eight petroleum storage tank locations at the site. The assessments found evidence of leaks at three of the tanks. The remediation of the releases is being overseen by the Petroleum Release Section of the MDEQ (formerly the MPHES).

Previous investigations by the EPA appear to be limited to a chemical safety audit conducted by the Region 8 Technical Assistance Team from February 9 through 12, 1993. The purpose of the audit was to document facility processes, chemical hazards, accidental release prevention practices, and emergency response preparedness and planning (EPA 1993).

5.0 DATA QUALITY OBJECTIVES PROCESS

The EPA Data Quality Objectives (DQO) Process is a seven-step systematic planning approach to develop acceptance or performance criteria for EPA-funded projects (EPA 2000). The seven steps of the DQO process are:

Step 1 The Problem Statement;
Step 2 Identifying the Decision;
Step 3 Identifying the Decision Inputs;
Step 4 Defining the Study Boundaries;
Step 5 Developing a Decision Rule;
Step 6 Defining Tolerance Limits on Decision Errors; and
Step 7 Optimizing the Sample Design.

Based on information provided by the EPA and the Missoula City and County Health Department (MCCHD), an understanding of the nature of the site (a former pulp and bleached paper mill), the potential sources present (sludge ponds, an emergency spill pond, wastewater ponds, a landfarming area), and the potential risks associated with the hazardous substances likely present in the sources, the project team currently identify the surface water and groundwater pathways as being the pathways of most concern at the site. The air and soil exposure pathways are considered to be of less concern, as there appear to be few if any residents or sensitive environments within 0.25 mile of source areas, and no residences, day care centers, schools, or work areas (except the few mill workers) located within 200 feet

of observed contamination. Nonetheless, as it has been reported by the MCCHD that fugitive dust emissions have been generated at the site and carried offsite (MCCHD 2011), these pathways may warrant further investigation.

These risks and pathways of concern are presented in Appendix C: Conceptual Site Model, and described in more detail in the Data Quality Objectives Seven-Step Planning Approach, presented in Table 1 below.

TABLE 1
Data Quality Objectives Seven-Step Planning Approach

Step 1 Problem Statement	Step 2 Identifying the Decisions	Step 3 Decision Inputs	Step 4 Study Boundaries	Step 5 Decisions Rules	Step 6 Tolerance Limits on Errors	Step 7 Optimization of Sample Design
There is a potential for contamination from a former pulp and paper mill to impact the Clark Fork River, O'Keefe Creek, groundwater, and soil adjacent to the mill property. There was a lack of empirical data on the presence of contamination along exposure pathways and within potential source areas at the former mill. The Clark Fork River is a fishery, and wetlands have been identified along the banks of the creek. Numerous domestic and public supply wells in the vicinity of the former mill use groundwater.	The principal decision for the Removal Assessment objective of this investigation was whether or not there is an immediate risk to groundwater, surface water, and/or human receptors from potential contamination (such as dioxin/furans and metals) from the former mill that warrants a removal action and/or further investigation. The principal decision for the Site Investigation objective of this investigation was to determine whether or not the site had a high probability of qualifying for the National Priorities List via the Hazard Ranking System.	The information that was required to arrive at a decision for this site included: • Analytical data from source area samples to determine the presence and concentration of contaminants in source areas; • Analytical data from surface water, groundwater, soil, and sediment samples to determine if contaminants from the potential waste sources have migrated into aquifers below the former mill, and/or into the Clark Fork River or O'Keefe Creek; • Confirmation of environmental (e.g., wetlands) and human health targets (e.g., people consuming fish) directly or potentially impacted by migration of contaminants from the sources; and • Comparison of analytical results to background concentrations and HRS benchmarks.	The site covers approximately 3,150 acres, of which approximately 1,000 acres may be potential sources (e.g., sludge ponds, an emergency spill pond, a historical landfarming area, wastewater storage ponds). The site is bounded on the west by the Clark Fork River, on the south by O'Keefe Creek, and primarily by agricultural land to the east and north. The physical limits of the current investigation were the Clark Fork River from just upstream of the site, downstream to outfall 4; groundwater beneath the site, within domestic wells along the northern site boundary, and at background locations to the south of the site; and surface and subsurface soils and sludges within the boundary of the site. Approximately 4,000 people reside within 4 miles of the site and source their potable water from groundwater. The pathways of primary concern at the former Smurfit-Stone Mill site are the surface water and groundwater pathways. The soil exposure and air pathways appear to be of lesser concern due to a lack of nearby population or sensitive environments. However, there have been recent reports of dust plumes being carried offsite and these pathways may, therefore, warrant investigation. Potential human health and environmental targets include the population surrounding the former mill, on-site workers, aquatic and wetland environments downstream of the former mill, consumers of fish from the Clark Fork River, and recreational users of the area.	Results for each sample were compared to site-specific background samples in addition to surface water, groundwater, or soil benchmarks as appropriate (see Tables). Superfund Chemical Data Matrix (SCDM) and MDEQ Circular 7 benchmarks were utilized for this investigation. SCDM benchmarks are applicable to the SI portion of this investigation. There are no benchmarks for sediments or subsurface soils. The EPA and other appropriate agencies (such as the MDEQ) and their representatives will continue to work together to evaluate the site data obtained during field activities to determine if a time-critical removal is warranted, or if additional information is required to characterize the site or migration of the waste from the site. Analytical results have been used to determine a preliminary HRS score for the site.	Samples were collected to identify potential human health and environmental targets for the various pathways and to determine background concentrations for soils, surface water, groundwater, and sediments. Sampling, measurement, and decision errors were minimized by using standard field and laboratory operating procedures, collecting an appropriate number of quality control samples, meeting standard holding times, and ensuring that samples are representative of site conditions. Sample locations were biased to collect information from areas with the greatest potential for contamination. Sampling activities adhered to the UOS TSOPs and the UOS Generic Quality Assurance Project Plan (QAPP) to ensure data reproducibility. All data, with the exception of the asbestos results, have been validated in accordance with CLP National Functional Guidelines to document data quality. Criteria for data quality parameters are presented in section 7.1	In some instances, sample locations were field-modified by the project manager or leader of the field sampling crew based upon an increased understanding of known environmental conditions and additional information obtained during field activities. An opportunity sample was collected from an area of possible contaminated material observed adjacent to landfill A. A detailed description of the sample design is available in the Field Sampling Plan (UOS 2011b)

6.0 SAMPLE NOMENCLATURE, LOCATIONS AND METHODS

6.1 SAMPLE NOMENCLATURE

Sample identification followed the following format:

- SS_(Matrix ID)_(Sample Number)

SS stands for Smurfit-Stone. Matrices were identified as follows:

- SW = surface water
- SE = sediment
- SO = soil (source samples, both surface and subsurface)
- Soil samples were also given a two-digit number at the end of the sample ID to indicate sample depth. For surface soil samples, this number is 02 and indicates the sample was collected from 0 to 2 feet bgs (SSSO0202). For depth samples, the two-digit number at the end indicates the deepest depth at which the sample was collected. Depth samples were generally collected over a 2-foot interval.
- GW = groundwater, from domestic wells, existing monitoring and supply wells, and from Geoprobe wells installed as part of this investigation

Sample locations were then numbered sequentially.

6.2 SAMPLE LOCATIONS

Field activities specifically included the collection of 75 field environmental samples comprised of 17 surface soil/source (0-2 feet below ground surface [bgs]) samples, 8 subsurface soil/source (>2 feet bgs) samples, 20 co-located surface water and sediment samples (from 10 locations), 21 groundwater samples (collected from existing monitoring and domestic wells, as well as newly installed monitoring wells), and 9 field QA/QC samples, which included 2 surface soil replicates, 2 groundwater duplicates, 1 rinsate, and 2 trip blanks (in addition to the laboratory MS/MSD) (Table 8) (UOS 2011c).

Specific sample locations were determined in the field based upon safe access and orientation to potential waste sources or pathways (e.g., groundwater wells were installed within or downgradient of potential source areas, the closest domestic wells to source areas, surface water sampling locations were located below outfalls). Sampling locations and procedures generally

followed those pre-determined in the FSP with some exceptions, which are outlined in Section 3.0 of the SAR and summarized in Section 10.2.4 of this report (UOS 2011c). The deviations in sampling location from the FSP are highlighted with shading in Table 8.

Source areas on the site confirmed through chemical analysis include four sludge ponds (sludge ponds 3, 4, 5 and 17), an emergency spill pond (pond 8, with two separate cells), an exposed soil pile adjacent to landfill A, one wastewater storage pond (pond 2), and a soil landfarming area (Tables 8 through 17, Figure 2). Additional potential sources at the site that were not characterized as part of this assessment include 11 additional wastewater storage ponds, 3 wastewater treatment aeration basins, and 2 polishing ponds. Only the four sludge ponds, the emergency spill pond, one wastewater storage pond, and the landfarming area were intended to be targeted for sampling during this assessment, as they were determined to have the highest potential for containing hazardous substances, or, in the case of the wastewater storage pond, were considered to be most at risk in the event of a catastrophic flood. The exposed soil pile adjacent to landfill A was sampled as opportunity sample SSSO1702 when what appeared to be exposed soil/sludge adjacent to landfill A was observed in the field.

6.2.1 Source Samples

Sludge Pond Samples

As planned, four soil/source samples (two surface and two subsurface) were collected from sludge ponds 3 and 17 (Figure 2). Only three soil/source samples were collected from sludge ponds 4 and 5 (two surface and one subsurface) as the track-mounted Geoprobe® could not safely access the proposed sampling locations due to a soft surface (Photo 1). Subsurface soil sampling locations SSSO1110 (sludge pond 4) and SSSO0902 (sludge pond 5) were moved from the center of each pond to the edge, due to the lack of safe access for the track mounted Geoprobe® to the proposed sampling locations (Photo 3).

Emergency Spill Pond Samples

One surface and one subsurface soil/source sample were collected from the dry cell of the emergency spill pond, and one surface soil/source sample was collected from the wet cell of the emergency spill pond (Figure 2). The second subsurface sample was not collected due to lack of safe access for the track mounted Geoprobe® to the proposed sampling

location. Duplicate samples and extra volume MS/MSD samples were collected at the surface sample locations for both the dry and wet cells of the emergency spill pond.

Wastewater Storage Pond Samples

As planned, two surface soil/source samples were collected from wastewater pond 2 (Figure 2).

Landfarm Area Samples

As planned, three surface soil/source samples were collected from the landfarm area (Figure 2).

Opportunity Sample

One opportunity sample (SSSO1702) was added to the sample plan and was collected from an area of what appeared to be exposed soil/sludge adjacent to landfill A (Photo 5) (Figure 2).

6.2.2 Surface Water and Sediment Samples

One co-located surface water and sediment sample was collected from O'Keefe Creek, and one co-located sample was collected from the Clark Fork River. Release surface water and sediment samples were collected from four locations below four facility wastewater outfalls to the Clark Fork River, and from two locations on O'Keefe Creek (20 total samples from 10 locations) (Figure 3).

6.2.3 Groundwater Samples

Shallow Aquifer

Groundwater samples were collected from eight temporary groundwater monitoring wells installed with a track mounted Geoprobe®. These wells were completed within the shallow aquifer at the site and located within and downgradient of potential source areas, including the sludge ponds, the emergency spill pond, and landfills A and G. In addition, groundwater samples were collected from seven existing monitoring wells completed within the shallow aquifer, targeting locations downgradient of the majority of source

areas and adjacent to the Clark Fork River, and one background location on the southern part of the mill property (Figure 3).

Deeper Aquifer

One existing supply well located on the mill property was sampled as the background location for the deeper aquifer. Groundwater samples were also collected from five domestic wells completed in the deeper aquifer and located just outside the property boundary of the site, and generally crossgradient of source areas (Figure 3).

Duplicate and extra volume MS/MSD groundwater samples were collected from a temporary Geoprobe® well located within or downgradient of pond 20 (landfill E), and a duplicate groundwater sample was also collected from an existing domestic well (deeper aquifer) located crossgradient of the mill (the well for 15400 Marcure Lane).

Field water quality parameters and well data for the wells sampled during this investigation are summarized in Table 2 below.

TABLE 2
Groundwater Field Data

Sample Number	Sample Time	Sample Date/Time	Well Diameter (inches)	Depth to Water (bgs)	Total Depth (ft)	Temperature (°C)	Conductivity (µS/cm)	pH	Total Dissolved Solids (ppm)	Salinity (parts per thousand)	Total Purge volume (gallons)	Notes
Shallow aquifer												
SSGW01 (bg)	9:30	10/26/2011	4	10.77	29.25	11.6	484	7.40	344	0.221	37	Clear water
SSGW03	9:10	10/26/2011	1	17.00	29.90	10.6	9930	7.70	7.01	5.01	1.5	Grey with sulfur smell
SSGW04	14:05	10/26/2011	1	20.45	28.50	10.5	5570	7.31	3.45	2.79	1	Grey with methane odor - confirmed with PID/FID
SSGW05	17:25	10/26/2011	1	26.25	30.25	12.6	6990	7.73	5.29	3.40	0.5	Black water
SSGW07	11:37	10/26/2011	1	22.95	40.55	10.6	5210	7.42	3.69	2.62	2.2	Strong gas odor
SSGW08	18:50	10/27/2011	1	12.50	29.95	10.4	3750	7.76	2.63	1.85	2.5	Brown water
SSGW10	14:10	10/27/2011	1	13.65	40.65	11.3	3030	8.64	2.12	1.45	3.75	Dark grey
SSGW11	17:20	10/27/2011	1	12.83	36.85	11.2	2530	7.89	1.79	1.20	3	Dark grey
SSGW12	10:20	10/27/2011	1	12.25	37.10	11.0	2160	7.78	1.52	1.12	3.1	Dark grey
SSGW13	10:55	10/27/2011	4	7.73	30.78	10.3	2420	7.51	1.72	1.17	46	Brownish in color throughout purge
SSGW14	12:05	10/27/2011	4	10.90	36.17	7.7	2610	7.71	1.83	1.25	34	Brownish color and petroleum odor
SSGW15	15:05	10/27/2011	4	14.00	35.50	13.3	2470	7.51	1.76	1.21	42	Sulfur smell with brownish water
SSGW16	17:05	10/27/2011	4	16.95	40.90	12.3	2550	7.64	1.78	1.22	47	Brown with light sulfur smell
SSGW17	18:20	10/27/2011	4	7.70	30.20	13.3	1765	7.56	1.27	0.855	47	Brown with strong sulfur odor
SSGW18	10:23	10/27/2011	4	6.50	32.50	10.3	2580	7.49	1.83	1.24	52	Brownish color with sulfur smell
Deep aquifer*												
SSGW02 (bg)	10:30	10/26/2011	12	NR	~140-170	12.2	468	7.54	NR	NR	12,000	Existing deep well with pump
SSGW23	12:45	10/29/2011	6	NR	~140-170	11.1	721	7.90	512	351.00	240	Clear water
SSGW24	13:50	10/29/2011	6	NR	~140-170	10.7	622	7.99	442	301.00	102	Clear water
SSGW25	13:20	10/29/2011	6	NR	~140-170	11.0	671	7.97	475	326.00	243	Clear water
SSGW26	11:50	10/29/2011	6	NR	~140-170	10.9	549	8.01	390	265.00	213	Clear water
SSGW27	15:30	10/25/2011	6	NR	~140-170	10.9	1635	7.91	1160	804.00	600	Clear water

bg background location
bgs below ground surface
ft feet
ppm parts per million
ppt parts per thousand
°C Celsius
µS/Cm microseimens per centimeter
NR Not Reported
* Deep aquifer wells: Wells could not be gauged due to presence of pumps. Total depths are estimated based on bore log information from construction.

6.3 SAMPLING METHODS

6.3.1 Soil/Source and Sediment Sampling

Soil/source and sediment samples were collected in accordance with procedures described in TSOP 4.16, "Surface and Shallow Depth Soil Sampling" and TSOP 4.17, "Sediment Sampling" (UOS 2005b). Augers or a slam bar with a core sampler were not used to collect surface soil/source samples as the equipment available from the EPA had too small of a capacity to collect both EPA samples and Smurfit-Stone splits samples in a timely manner. In addition, decontamination of the reusable sampling equipment would have proved to be very time-consuming, given the viscous nature of the sludge. Instead, these samples were collected with disposable plastic scoops, either from Geoprobe® macro-core sleeves or directly from the surface of the potential source.

A steel shovel was sometimes needed to assist in the collection of source samples, due to the viscous nature of the material and the desire to collect a large amount of material (e.g., at locations where a laboratory matrix spike/matrix spike duplicate sample was needed) to a depth of 2 feet bgs. The shovel was decontaminated prior to its initial use and then between sampling locations as per TSOP 4.11 "Equipment Decontamination" (UOS 2005b). The same stainless steel cutting shoe was used for each Geoprobe® source and groundwater location. The cutting shoe is the only reusable part of the sampling system that makes contact with in situ soils. The drilling subcontractor, MSE Technology Application, Inc., decontaminated the cutting shoe prior to its initial use and then between sampling locations using a method equivalent to that in TSOP 4.11. A rinsate blank (sample SSSW89) was collected from both the shovel and the cutting shoe to assess the quality and thoroughness of the decontaminating procedures used (Photo 6).

All surface soil samples were collected from 0-2 feet bgs. Due to the apparent homogeneity of the sampled intervals, soils from each location were not composited prior to being placed in sample containers.

Samples for VOC analysis were collected first due to concerns about volatilization. At locations where samples were collected from macro-core sleeves, if sufficient volume for all containers was not gathered with a single push, the Geoprobe® location was slightly offset and additional volume was collected in a new sleeve

Field screening of soils with immunoassay test kits was proposed for the landfarm area if visual evidence of contamination was not observed. The test kits were not used as an aerial photo was found within the M2Green office building that showed the entire land parcel had been used for landfarming (Photo 7), and specific areas devoid of vegetation were noted in the field (Photo 8).

6.3.2 Surface Water and Groundwater Sampling

Surface water sampling was conducted according to TSOP 4.18, "Surface Water Sampling." UOS personnel measured general water quality parameters including pH, temperature, and electrical conductivity of each sample using a Eutech Instruments PCSTestr 35 Model multi-parameter instrument, as described in TSOP 4.14 "Water Sample Field Measurements" (UOS 2005b). All field data was recorded in field logbooks (Appendix B). Field instrumentation was calibrated daily, and all calibration and field data were recorded in a field logbook. All aqueous source and surface water samples analyzed for dissolved metals were filtered by using a peristaltic pump to draw the water directly through a 0.45 micrometer (µm) filter with disposable dedicated Tygon® tubing into the sample bottle. Surface water samples were collected directly from the source into the sample bottle, and sampling was conducted from the farthest downstream location to the farthest upstream location to minimize the potential for cross-contamination.

Groundwater samples were collected from seven existing shallow groundwater monitoring wells using dedicated Geosquirt™ disposable purge pumps. The dedicated Geosquirt™ pumps were used rather than a peristaltic pump or disposable bailers because they enabled much more rapid purge times. This greatly accelerated the sampling schedule.

All water samples were preserved as appropriate and stored on ice immediately after collection. The sample locations were photographed and recorded with a GPS.

7.0 ANALYTICAL RESULTS

7.1 ANALYTICAL PARAMETERS

The surface soil/source, subsurface soil/source, surface water, sediment, and groundwater samples collected during this site assessment were analyzed by the EPA CLP for RAS using the following methods:

- VOCs in soil/source, sediment, and waters by method CLP-SOM01.2 (based on EPA Method 8260B);
- SVOCs in soil/source, sediment, and waters by method CLP-SOM01.2 (based on EPA Method 8270D);
- PCBs in soil/source, sediment, and waters by method CLP-SOM01.2 (based on EPA Method 8082A);
- Total target analyte list (TAL) metals in soil and sediment samples by method CLP-SOM01.2 (based on EPA Method 6010C via AES or 6020 via MS);
- Total and dissolved TAL metals in waters by method CLP-SOM01.2 (based on EPA Method 6010C via AES or 6020 via MS);

Samples to be analyzed for CDDs and CDFs were sent to a private laboratory (ALS Laboratory Group) for analysis by method EPA 8290A. A private lab was used, rather than an EPA CLP laboratory for non-RAS, as the EPA CLP program was unable to perform the analyses during the time of the assessment.

The approved FSP stated that a "limited number" of groundwater and surface soil samples would be analyzed for asbestos by a private laboratory. A total of three surface soil samples and two groundwater samples were collected and sent to a private laboratory (Reservoirs Environmental, Inc.) for analysis using Transmission Electron Microscopy (TEM) for water samples and Polarized Light Microscopy (PLM) analysis for soil samples.

Petroleum fraction analysis was not performed as part of this investigation.

7.2 ANALYTICAL DATA – HRS REVIEW AND RA ASSESSMENT

The sample data collected during this RA/SI were reviewed using the HRS guidelines for analytical interpretation (Office of the Federal Register 1990). The analytical data is listed in

Tables 9 through 33a. Elevated concentrations of contaminants (defined as 3 times or more above background contaminant values) are noted in the analytical results tables and are determined by sample concentrations based on the following:

- If the background analyte concentration is greater than its Sample Quantitation Limit (SQL), and if the release sample analyte concentration is greater than its SQL, 3 times greater than the background, and 5 times greater than the blank concentration.
- If the background analyte concentration is not greater than its SQL and if the release sample analyte concentration is greater than its SQL, greater than the background Contract Required Detection Limit (CRDL), and 5 times greater than the blank analyte concentration.

Analytical results are also compared to environmental benchmark values. Surface soil/source samples were compared to SCDM Reference Dose Screening Concentration (RDSC) and Cancer Risk Screening Concentration (CRSC) soil benchmark values (Tables 9 through 13). Analytical results for surface water were compared to SCDM Surface Water Pathway Environmental (Acute and Chronic), as well as MDEQ Circular 7 Aquatic Life Standards (Acute and Chronic) and Human Health Standards (Surface Water) (Tables 19 through 23a). MDEQ Circular 7 Freshwater Aquatic Life Standards for some metals, which are hardness dependent, and Standards for pentachlorophenol, which are pH dependent, were adjusted per guidance in Circular 7.

Analytical results for groundwater were compared to SCDM RDSC and CRSC benchmark values, maximum contaminant levels (MCLs), and MDEQ Circular 7 Human Health Standards (Groundwater) (Tables 29 through 33a). Analytical results for subsurface soils and sediment were compared only to background results because no benchmarks have been established for subsurface soil or sediment (Tables 14 through 18 and 24 through 28).

Results that exceed the background concentration by 3 times are indicated by a shaded cell in the analytical results tables. Results that exceed a benchmark are indicated by an open star (☆). Sample quantitation limits are included in Appendix E.

For the SI portion of this investigation, comparison of analytical results to SCDM benchmarks, MDEQ Circular 7 values, and background concentrations were performed to assess the site according to HRS guidelines. All analytical results were reviewed separately by an EPA toxicologist as part of the RA portion of this assessment.

Toxicity Equivalent (TEQ) values for the dioxin and furan samples are also presented within the analytical tables (Tables 10, 15, 20, 25, and 30). As the toxicity of the individual dioxin and furan congeners can vary by orders of magnitude, each congener concentration is usually multiplied by individual World Health Organization (WHO) Toxicity Equivalence Factors (TEFs), which standardize each congener's toxicity to the toxicity of 2,3,7,8-TCDD (the most toxic of the congeners). When each dioxin/furan congener concentration is multiplied by its individual TEF, the product is the "WHO TEF Concentration" of that congener. The sum of the all of the WHO TEF concentrations of congeners is the TEQ, which allows the toxicity of a mixture of dioxin and furans to be expressed as a single number, and in terms of the most toxic form; 2,3,7,8-TCDD (EPA 2010, MDEQ 2012).

All CLP laboratory data were validated by a third party subcontracted chemist at TechLaw, Inc. The PCB results for samples SSGW05 (a shallow aquifer groundwater grab sample collected from a temporary Geoprobe®-installed groundwater well located within landfill A) and SSGW18 (a shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-10 [adjacent to Clark Fork River]) were rejected during data validation because surrogate percent recoveries were less than 10 percent. No other significant data quality issues were identified, and the CLP Form 1 documents, the data reports from ALS Laboratory Group and Reservoirs Environmental Inc., and the validation reports are presented under separate cover in Appendix E.

7.3 SELECTION OF BACKGROUND LOCATIONS

In order to determine representative background conditions, five background locations were sampled. A background surface soil grab sample (SSSO0102) was collected from the edge of the mill property to the north (upwind) of potential source areas. This sample is intended to represent soil conditions (both surface and subsurface) at unimpacted locations of the site.

Co-located background surface water and sediment samples (SSSW01/SSSE01 and SSSW04/SSSE04) were collected from O'Keefe Creek, immediately upstream of the PPE from the landfarm area, and from the Clark Fork River immediately upstream of potential source areas of the mill, respectively. These samples were collected to document conditions on O'Keefe Creek and the Clark Fork River upstream of areas potentially impacted by the site. It should be noted that the background sediment sample location on O'Keefe Creek (SSSE01) contained concentrations of numerous dioxin and furan congeners that were significantly elevated above the

concentrations found in the background sediment sample location on the Clark Fork River (SSSE04). The reason for this is not clear, although it possible that the background location on O'Keefe Creek has been affected by contaminated dust blowing from the surface of sources at the mill site. Alternatively, there may be an unknown source of dioxins and furan farther upstream on O'Keefe Creek. Additional sampling would be needed to confirm either scenario.

Two background groundwater samples were collected (SSGW01 and SSGW02) from existing wells located upgradient of potential site sources. Sample SSGW01 was collected from an existing monitoring well located upgradient of the mill (SMW-20) to document background conditions in the shallow aquifer. Sample SSGW02 was collected from an existing production well (SSSGW02) located upgradient of the mill to document background conditions in the deeper aquifer.

7.4 SOIL SOURCE SAMPLE RESULTS

Eighteen surface soil source samples (including 2 replicate samples) and 7 subsurface soil source samples were collected from several different potential source areas (Tables 9 through 18; Figure 2). One background surface soil sample was collected and is discussed in detail in Section 7.3 above.

When compared to the RA/SI investigation background concentrations, soil samples documented observed contamination (defined as concentrations greater than 3 times background concentrations) for the following organic analytes:

- 4-methylphenol in surface soils from sludge ponds 4 and 5; in subsurface soils from all four sludge ponds; and in surface soils from the emergency spill pond;
- Naphthalene and phenanthrene in the surface soil from the emergency spill pond; and
- Isopropylbenzene and phenol in subsurface soil from sludge pond 5.

In addition, observed contamination of butylbenzylphthalate, di-n-butylphthalate, and bis-2-ethylhexylphthalate was documented in some surface soil samples, and observed contamination of acetone was documented in some subsurface soils. Some amount of di-n-butylphthalate (a plasticizer) in samples is likely due to sample container and laboratory contamination as phthalate compounds leach from plastic sampling containers and laboratory equipment, and di-n-butylphthalate was found in the laboratory blank. The remaining phthalate compounds were not

found in the laboratory blank and are likely from degraded plastics that were noted in many of the ponds, in particular, emergency spill pond 8.

Observed contamination was documented for multiple dioxin/furan congeners within surface and subsurface soil samples collected from sludge ponds 3, 4, 5 and 7, emergency spill pond 8, the landfarming area, the wastewater storage pond, and the soil pile adjacent to landfill A. Observed contamination for Total-TCDD was documented in all soil source samples collected, with the highest concentrations being documented in sludge ponds 17 and 3.

When compared to the investigation background values, observed contamination (defined as concentrations greater than 3 times background) was documented for the following inorganic analytes:

- Antimony, arsenic, barium, cadmium, calcium, chromium, lead, manganese, nickel, potassium, silver, and zinc were elevated in at least one surface soil sample, and antimony and calcium were elevated in at least one subsurface soil sample.
- Locations containing elevated metals include all four sludge ponds (however, the only metal elevated in sludge pond 5 was calcium), the emergency spill pond, and the soil pile adjacent to landfill A.
- The metals that were elevated in the most samples were barium (three samples), cadmium (four samples), manganese (seven samples), and calcium (eight samples). The remaining metals listed in the first bullet point were found at elevated concentrations in only one or two surface and subsurface samples.

Concentrations of benzo(a)pyrene exceeded the SCDMs RDSC or CRSC benchmarks in one surface soil sample from the emergency spill pond. Arsenic exceeded the SCDMs RDSC or CRSC benchmarks in surface soils at all locations sampled, including the background location. There were no other SCDM benchmark exceedances for metals that have a SCDM benchmark available. In addition, multiple dioxins/furan compounds exceeded the SCDM CRSC benchmarks in samples from sludge ponds 3 and 7, and the emergency spill pond (8).

An analysis of the analytical data from soil/source samples revealed the following:

- Concentrations of metals were generally higher (as evidenced by the larger number of soil analytical results exceeding 3 times background concentrations) in surface soils than in subsurface soils.
- Sludge ponds 3 and 17 contained twice the number of elevated metals (eight) as the next most impacted location, and these sources, as well as the emergency spill pond, contained significantly more elevated dioxins/furans than the remaining locations sampled.
- The wastewater storage pond, landfarming area, and sludge pond 5 did not contain elevated metals, with the exception of calcium. These locations did contain dioxins/furans at elevated concentrations.
- Based on the presence of elevated levels of organic and inorganic compounds when compared to background concentrations, all ponds sampled were identified as sources of observed contamination.

7.5 GROUNDWATER RELEASE SAMPLE RESULTS

Sixteen groundwater samples (including 1 duplicate sample and 1 background sample) were collected from the shallow aquifer, and 7 groundwater samples were collected from the deep aquifer (including 1 duplicate sample and 1 background sample) (Tables 29 through 33; Figure 2). The background samples are discussed in detail in Section 7.3 above.

The PCB results for samples SSGW05 (a shallow aquifer groundwater grab sample collected from a temporary Geoprobe® well located within landfill A) and SSGW18 (a shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-10 [adjacent to Clark Fork River]) were rejected during data validation because surrogate percent recoveries were less than 10 percent. Estimated PCB concentrations of aroclor-1254 were elevated in some surface soil samples. However, when the estimated data were adjusted (as required per the EPA Quick Reference Fact Sheet entitled, "Using Qualified Data to Document an Observed Release and Observed Contamination"), adjusted concentrations were less than 3 times the background concentration (EPA 1996). Given the number of observed releases of other contaminants, the rejection of this sample result is unlikely to affect this assessment.

When compared to the investigation background values, groundwater sample locations contained elevated levels (defined as concentrations greater than 3 times background concentrations) of the following organic and inorganic analytes:

- SSGW05 (a shallow aquifer groundwater sample located within or downgradient of landfill A) contained elevated concentrations of acetone, chlorobenzene, ethylbenzene, o-xylene, m,p-xylene, and isopropylbenzene.
- Dissolved and total aluminum, arsenic, barium, calcium, chromium, cobalt, copper, iron, magnesium, manganese, nickel, potassium, sodium, and vanadium were all elevated in at least one groundwater sample.
- Locations containing at least 12 elevated total and/or dissolved metals include shallow groundwater beneath or downgradient of the sludge ponds, landfill A, landfill 6, landfill E, aeration basins, and landfill G.
- Total and dissolved aluminum, arsenic, manganese, sodium, and various dioxins/furans were present at elevated levels in all samples from the shallow aquifer. Total iron was also present at elevated levels in all samples from the shallow aquifer.
- The two groundwater samples containing the highest concentrations and largest number of elevated dioxins/furans were SSGW04 (shallow well located downgradient of sludge pond 3) and SSGW05 (shallow well located downgradient of landfill A). (Other wells also had elevated concentrations of various congeners.)
- Both total and dissolved iron and sodium, and dissolved arsenic, copper, and nickel were the only elevated analytes present in groundwater samples from the deeper aquifer.

Iron exceeded the MDEQ Human Health Standards for groundwater in all shallow and deep groundwater samples except the background sample and a duplicate sample. Barium, chromium, and manganese exceeded the MCL, the SCDM RDSC, and/or the MDEQ Human Health Standards for groundwater in several shallow groundwater samples. The SCDM CRSC was exceeded for four dioxin and two furan congeners, with most of the exceedances in samples SSGW04 and SSGW05.

An analysis of the analytical data from groundwater samples reveals the following:

- As you move further away from the sludge ponds and landfills, fewer elevated metals and dioxins/furans were present in shallow aquifer samples. In addition, samples taken further from the sludge ponds and landfills generally had metals and dioxins/furans concentrations an order of magnitude lower than those located closer to the sludge ponds and landfills.

- Arsenic, barium, calcium, chromium, manganese, nickel, potassium, and zinc are present at elevated levels in both source samples and groundwater samples, and of these, arsenic and manganese are the two most widespread.
- There are a large number of dioxins/furans (including Total-TCDD) that were present in source soils and also present in shallow groundwater.

Field notes indicate that a petroleum odor was detected from groundwater collected at the SSGW14 location (existing monitoring well SMW-13), although VOC and SVOC results from the sample collected from this well did not indicate the presence of any petroleum compounds. However, it should be noted that petroleum fraction analysis was not performed as part of this investigation.

7.6 SURFACE WATER RELEASE SAMPLE RESULTS

Ten surface water samples (including 2 background samples) were collected as part of this assessment, including 3 samples from O'Keefe Creek and 7 samples from the Clark Fork River (Tables 18 through 22; Figure 3). The background surface water samples are discussed in detail in Section 7.3 above.

When compared to the investigation background values in surface water, dissolved manganese from four samples in the Clark Fork River exceeded the background concentration by 3 times. Manganese was also present at 3 times background concentrations in some source samples (e.g., those collected from ponds 3, 17). Dissolved aluminum from one sample in O'Keefe Creek was present at 3 times the background concentration. Aluminum was not elevated in any source sample. No other analytes were detected at elevated concentrations in surface water.

The concentration of dissolved aluminum exceeded the MDEQ Aquatic Life Standard (Chronic) in one water sample collected from O'Keefe Creek, and concentrations of total alumimum exceeded the SCDM Surface Water Pathway Environmental (Chronic) Standard in two samples from O'Keefe Creek. The concentration of WHO TEQ values for dioxin and furan concentrations in all surface water samples exceeded the MDEQ Human Health Standard. No other analytes exceeded benchmark values. It should be noted that for some analytes, the detection limit exceeded the value of the benchmark.

7.7 SEDIMENT RELEASE SAMPLE RESULTS

Ten sediment samples (including 2 background samples) were collected as part of the assessment, including 3 samples from O'Keefe Creek and 7 samples from the Clark Fork River (Tables 23 through 27; Figure 3). The background samples are discussed in detail in Section 7.3 above.

When compared to the investigation background values for sediment, calcium is elevated above 3 times background concentrations in three samples from the Clark Fork River. Chromium and potassium are elevated in one sample from the Clark Fork River, adjacent to wastewater storage pond 13, and vanadium is elevated in one sample from the Clark Fork River, immediately downstream of outfall 4. Calcium was elevated in many source samples, but chromium and potassium were elevated in only one source sample each.

When compared to the background samples, at least one dioxin or furan congener is present at elevated concentrations in all sediment release samples collected. As many as three dioxin congeners are present at elevated concentrations in O'Keefe Creek in the release samples (e.g., SSSE03), and as many as 13 dioxin and furan congeners are present at elevated concentrations in the Clark Fork River (SSSE09). The samples with the greatest concentrations and highest number of elevated dioxins/furans were generally collected downstream of, but close to, an outfall (e.g., SSSE07 [outfall 2], SSSE09 [outfall 3] and SSSE10 [outfall 4]). The sediment sample SSSE05, collected adjacent to pond 2, had a similar number of elevated dioxins/furans. The most commonly elevated congeners across all sediment samples were 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD), 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD), Total Heptachlorodibenzo-p-dioxins, and Octachlorodibenzo-p-dioxin (OCDD).

8.0 PATHWAY ANALYSIS

8.1 SOURCES AND WASTE CHARACTERIZATION

Table 3 below summarizes potential source and source containment characteristics observed during the assessment. Chemical analysis has been used to document the concentrations of hazardous substances within potential sources, or in groundwater beneath or immediately downgradient of each source. If an analyte is present in a sample at 3 times background concentrations, the sample was used to characterize the area where it was collected as a source.

A detailed summary of potential sources of contamination at the site is provided in both the PA report (UOS 2011a) and the FSP (UOS 2011b). Analytical results from surface and subsurface soil samples collected within the ponds, the former landfarm area, and the pile near landfill A are described above within section 7.4 and are shown in Tables 9 through 18. Analytical results from groundwater samples collected immediately beneath or downgradient of the three landfills investigated are shown in Tables 29 through 33a.

TABLE 3
Dimensions and Containment Characteristics for Potential Sources

Source Name	Source Type (per HRS)	Surface Area (acres)* [acres]§	Average Depth* (feet bgs)	Depth Observed with Geoprobe® (feet bgs)	Volume* (acre feet)	Cover Present?	Liner Present?	Leachate Collection System Present?	Run-on/ Run-off Controls Present?
Sludge Pond 3	Backfilled Surface Impoundment	20 [22]	8	16	160	Yes (wood chips only), cover not complete (Photo 9)	No	No	No
Sludge Pond 4	Surface Impoundment	23 [32]	10	6.5-8	230	No, some vegetation (Photo 10)	No	No	No
Sludge Pond 5	Surface Impoundment	24 [30]	14	16.5	336	No, some vegetation (Photos 2, 3)	No	No	No
Sludge Pond 17	Surface Impoundment	24 [28]	7.2	12-13.5	173	No, some vegetation (Photo 11)	No	No	No
Emergency Spill Pond (Pond 8)	Surface Impoundment	24 [26]	5	5.6 in dry cell	120	No, some vegetation (Photo 12)	No	No	No
Pond 2	Surface Impoundment	121 [124]	11.7	NA	1,414	No, some vegetation (Photo 13)	No	No	No
Landfill A	Landfill	11 [9]	NA	NA	NA	Yes, 18″ clay, vegetation (Photo 14)	No	No	No
Landfill 6	Landfill	16 [11]	6.1	NA	97	Yes, 18″ clay, vegetation (Photo 15)	No	No	No
Landfill G	Landfill	4 [2]	NA	NA	NA	Yes, 18″ clay, vegetation (Photo 16)	No	No	No
Former landfarm	Landfarm	36 [18]	NA	NA	NA	No, largely vegetated (Photo 8)	No	No	No
Pile near Landfill A	Pile, other	[1.95]	NA	NA	NA	No, unvegetated (Photo 5)	No	No	No

* From Smurfit-Stone "Pond Statistics," undated
§ Estimated from aerial photograph.
NA Not applicable

8.2 SURFACE WATER PATHWAY AND TARGETS

The mill site lies within the Clark Fork River valley and is generally flat, with an elevation range from approximately 3,070 feet near the mill facility to approximately 3,040 feet at the Clark Fork River in the northwest corner of the site. Overland flow from the site would generally travel west towards the river, although much of it would be captured in ponds or diverted by various ditches and channels, such as the non-contact cooling water ditch (Photo 10 in the PA report).

The Clark Fork River flows from the south to the north and has an annual mean discharge at a point below Missoula (USGS station 12353000, 4.5 miles west of Missoula) of 5,293 cfs (USGS 2011). Construction of the wastewater storage ponds on the mill site led to the relocation of the Clark Fork River channel to the west. Much of the mill site lies within the Federal Emergency Management Agency (FEMA) 100-year floodplain (FEMA 1988).

The western boundary of the site is the Clark Fork River, with the site having approximately 3.6 miles of river frontage (Figure 2, Photos 1, 6, 13, and 14 in the PA report). Chloride-ion concentrations in mill site groundwater monitoring wells show that mill effluent percolating through the wastewater storage ponds reaches the river (Grimestad 1992).

Surface water targets include sensitive environments (wetlands) adjacent to and downstream of the site, as well as the fishery of the Clark Fork River. Drinking water does not appear to be threatened, as all municipal water supply systems in the local area appear to utilize only groundwater (EPA 2011). It should be noted that shallow groundwater wells along the Clark Fork River downstream of the site would most likely be influenced by flows from the river (e.g., during spring runoff periods when the river would be a "losing" stream).

O'Keefe Creek flows from east to west across the southern extent of the mill property, adjacent to ponds 17 (sludge), 1A and 2 (both treated wastewater storage) (Figure 2). The USGS reported a stream flow measurement of 186.0 cfs from O'Keefe Creek in 1980 (USGS 2011). The creek had a substantial flow during the site reconnaissance in June 2011 (Photo 16 in the PA report), but was measured as only 1.35 cfs by UOS during this assessment in October 2011 (Appendix D).

8.2.1 Wetlands

In 2012, the MTNHP completed provisional wetland mapping for the area covered by the Primrose Quadrangle Map (Appendix E). This inventory identifies many individual

palustrine emergent and scrub-shrub wetlands (coded PEMA, PEMC, PSSA and PSSCx on the wetlands map) occurring along the Clark Fork River along the western border of the mill property.

Wetlands of these two specific types occurring in individual river frontage lengths of greater than 0.1 mile are presumed to be eligible for scoring as surface water targets under the HRS. Between sediment sampling locations SSSE05 (adjacent to pond 2) and sediment sampling location SSSE10 (just downstream of outfall 4) there are eight individual palustrine emergent wetlands totalling approximately 1.55 frontage miles, and three palustrine scrub-shrub wetlands totaling approximately 0.35 frontage mile (Appendix E). The sediment sample SSSE05 was collected within an area mapped by the MTNHP as palustrine emergent wetlands, and sediment sample SSSE06 was collected within an area mapped as palustrine scrub-shrub wetlands. HRS-eligible wetlands occurring downstream of sample location SSSE10 have not been calculated for this report, but provisional mapping downstream also shows numerous palustrine emergent and scrub-shrub throughout the length of the 15-mile TDL.

A narrow stretch of palustrine emergent wetland, approximately 0.2 mile in length, is also mapped within O'Keefe Creek, along the eastern border pond 1A (Appendix E).

In addition to wetlands frontage along the Clark Fork River and O'Keefe Creek, a significant amount (at least 35 acres) of palustrine emergent wetlands are shown to be present within on-site ponds; in particular, ponds 12 and 13 (Appendix E). Although they occur in constructed surface impoundments, these wetlands could possibly be considered HRS-eligible (i.e., if it could be shown that eligible wetlands existed in these areas prior to the construction of the impoundments).

8.2.2 Fishery

The entire length of the 15-mile TDL is considered a fishery with a Montana Fish, Wildlife and Parks (MFWP) fishery resource value of 1 (Outstanding). The MFWP Deep Creek fishing access site is located at the confluence of Deep Creek and the Clark Fork, approximately 0.5 mile upstream of the southern mill site boundary. The 423-acre MFWP Erskine fishing access site begins approximately 2.5 miles downstream of the mill site and stretches for approximately 2.5 river miles. There were an estimated 37,996 angling

days per year on this segment of the Clark Fork River in 2009 (MFWP 2011). Recreational fishing for the following species is reported in the fishery: brown trout, largemouth bass, mountain white fish, smallmouth bass, rainbow trout, northern pike, yellow perch, and westslope cutthroat trout (MFWP 2011). It is assumed that fish are caught for consumption, but evidence of this has not been gathered as part of this investigation.

Although the stretch of river adjacent to the mill site is considered a fishery with an MFWP fishery resource value of 1 (Outstanding), no fishermen were observed during the field activities. This may simply have been due to the season (late fall) and timing of the field work (mostly weekdays). Two MFWP fishing access sites are located in the vicinity of the site (approximately 0.5 mile upstream of the southern mill site boundary, and beginning approximately 2.5 miles downstream of the mill site), but neither site was visited during the field activities. The only evidence of recreation on the stretch of the river adjacent to the mill noted during the field work was tire tracks and the remains of a campfire on a sand bar west of pond 11 (Photo 19).

An estimate of the quantity of fish in the segment of the river adjacent to the mill could not be found. However, a 1990 fish survey along the Erskine fishing access site showed 17 brown trout for every 1,000 feet of river length (MFWP 2011). A 2007 study within the Deep Creek fishing access site found no mussels were present (MFWP 2010). Numerous river rafting companies offer fishing/float trips on the Clark Fork River, although it is not clear if any float the segment of the river adjacent to the mill site.

It has also been reported that crayfish are harvested for consumption from the Clark Fork River, although exact locations and quantities are not clear (MCCHD 2012).

8.2.3 Threatened and Endangered Species

The river segment adjacent to the mill is listed as a Wildlife Protected Area as it is a bald eagle nesting area and a big game critical wintering area, and is a historical peregrine falcon nesting area (MFWP 2011). Sensitive or threatened environments or species were not observed during this site inspection. Threatened and endangered species present within Missoula County are shown in Table 4 below (USFWS 2011b):

TABLE 4
Threatened and Endangered Species Occurring in Missoula County, Montana

Species Scientific Name	Common Name	Status
Haliaeetus leucocephalus	Bald Eagle	*
Ursus arctos horribilis	Grizzly Bear	Federally-listed Threatened
Howellia aquatilis	Water Howellia	Federally-listed Threatened
Lynx canadensis	Canadian Lynx	Federally-listed Threatened
Salvelinus confluentus	Bull Trout	Federally-listed Threatened

*Though not currently listed as threatened or endangered by the USFWS under the Endangered Species Act, the bald eagle is still protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act.

The Clark Fork River has been identified as nodal habitat for the federally listed endangered bull trout. Nodal habitats are defined as waters that provide migratory corridors and over-wintering areas, or are otherwise critical to the population at some point in its life history. Nodal waters are essential for the survival of migratory bull trout.

The MTNHP lists 65 animal species of special concern, including 9 mammals and 23 birds, as well as 49 plant species of special concern as occurring in Missoula County (MTNHP 2011).

8.2.4 Observed Release, Attribution and Actual Contamination

UOS collected surface water and sediment release samples from Smurfit-Stone Mill late October 2011. Two background locations were sampled: one in O'Keefe Creek upstream of the PPE for the landfarm area, and one in the Clark Fork River upstream of potential source areas of the mill.

Analysis of surface water samples indicated concentrations of dissolved manganese from four samples in the Clark Fork River exceeded the background concentration by 3 times. Manganese was also present at 3 times background concentrations in source samples from the site, but was not present at elevated concentrations in the one source area that is adjacent to the Clark Fork River, or in O'Keefe Creek. It is possible that the dissolved manganese in surface water is coming from elevated dissolved manganese in the shallow groundwater. No other analytes were detected at elevated concentrations (defined as concentrations 3 times background concentration) in surface water.

Concentrations of total arsenic exceeded the MDEQ Aquatic Life Standards (Chronic) and Human Health Standards (Surface Water) in all surface water samples collected

(including background samples). However, for HRS purposes arsenic was not considered elevated because it did not exceed 3 times the background level. No other analytes exceeded benchmark values. It should be noted that for some analytes, the detection limit exceeded the value of the benchmark.

Analysis of sediment release samples indicated chromium was elevated in one sample from the Clark Fork River (SSSE08, collected adjacent to wastewater storage pond 13), and vanadium was elevated in one sample from the Clark Fork River (sample SSSE10, collected immediately downstream of outfall 4). Chromium was elevated in only one source sample. Vanadium was not present at elevated concentrations in source samples.

The Clark Fork River upstream of Missoula has been affected by the historical deposition of metals-contaminated (particularly arsenic and copper) tailings from mining activities in the Butte, Montana area. Much of the metals-contaminated sediments have been removed from the Clark Fork, but remnant contamination from the sediments will continue to impact groundwater, surface water, and sediment quality within the river for some time. While it is possible that this contamination has affected surface water and sediment quality within the Clark Fork River as far downstream as the area of the mill, the background surface water and sediment samples collected for this investigation at a site on the Clark Fork above the source areas of the mill clearly show that manganese contamination in surface water release samples appears to be attributable to the mill site. Total and dissolved manganese was elevated in every shallow groundwater sample (with the exception of the background sample) collected during this investigation.

Various dioxin and furan congeners were present at elevated concentrations in all sediment release samples collected and were also present at elevated levels in all identified sources. Between 1 and 3 dioxin congeners were present at elevated concentrations in O'Keefe Creek (e.g., SSSE03), and as many as 13 dioxins/furan congeners are present at elevated concentrations in the Clark Fork River (e.g., SSSE09). The samples with the greatest concentrations and highest number of elevated dioxins/furan congeners were generally collected downstream of, but close to, an outfall (e.g., SSSE07 [outfall 2], SSSE09 [outfall 3] and SSSE10 [outfall 4]). The sediment sample SSSE05, collected adjacent to pond 2, had a similar number of elevated dioxins/furans. The most commonly elevated congeners across all sediment samples were 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD), 1,2,3,4,6,7,8-Heptachlorodibenzo-p-

dioxin (HpCDD), Octachlorodibenzo-p-dioxin (OCDD), and Total-HpCDD. Three of these substances have a bioaccumulation potential factor value of 5,000 or greater under the HRS. No other sources of dioxins or furans are known to occur in the study area.

The farthest upstream PPE for dioxin and furan congeners (e.g., 2,3,7,8-TCDD) within the surface water pathway is a point on O'Keefe Creek east of sludge pond 17. While no direct breaches of sludge pond 17 into the creek were noted during field sampling activities, it is believed that contaminated dust blowing from the surface of the various sludge ponds (including sludge pond 17) has likely been deposited, either directly or through overland flow, into the creek (the prevailing wind direction is from the northwest and O'Keefe Creek lies directly adjacent to the ponds to the south and east). O'Keefe Creek drains into the Clark Fork River along the southern border of the wastewater storage pond 2. As no sediment sample locations on the Clark Fork River showed observed release concentrations of 2,3,7,8-TCDD, the TDL for 2,3,7,8-TCDD within O'Keefe Creek ends at the creeks confluence with the Clark Fork River. The in-water segment of this TDL, all subject to actual contamination (Level II) under the HRS, includes a stretch of palustrine emergent wetlands that is approximately 0.2 mile in length. It does not appear that O'Keefe Creek is fished as the creek is small and there are numerous other superior fishing opportunites in the area.

The highest PPE on the Clark Fork River for various dioxin and furan congeners (e.g., 1,2,3,4,6,7,8-HpCDD) is adjacent to wastewater storage pond 2. This pond is bordered by O'Keefe Creek to the southeast and the Clark Fork River to the south and west. As with sludge pond 17, no direct breaches of this pond into either O'Keefe Creek or the Clark Fork River were noted during field activities. However, it has been reported that dust occasionally blows from the surface of the various ponds. It is, therefore, believed that this dust has been deposited, either directly or through subsequent overland flow, into both O'Keefe Creek and the Clark Fork River. The lowest downstream observed release sample for various dixon and furan congeners (including 1,2,3,4,6,7,8-HpCDD) is SSSE10, collected from a point on the Clark Fork River approximately 3 miles downstream of wastewater storage pond 2, and just below outfall 4.

This entire 3 mile segment of the Clark Fork is subject to actual contamination (Level II) under the HRS. As discussed above, there are eight individual palustrine emergent wetlands totalling approximately 1.55 frontage miles, and three palustrine scrub-shrub

wetlands totaling approximately 0.35 frontage mile within this 3 mile stretch of the Clark Fork (Appendix E). The sediment sample SSSE05 was collected within an area mapped by the MTNHP as palustrine emergent wetlands, and the sediment sample SSSE06 was collected within an area mapped as palustrine scrub-shrub wetlands. HRS-eligible wetlands occurring downstream of sample location SSSE10 have not been calculated for this report, but provisional mapping downstream also shows numerous palustrine emergent and scrub-shrub throughout the length of the 15-mile TDL.

As part of its National Bioaccumulation Study, the EPA collected fish tissue from both a large-scale sucker and a rainbow trout at a location on the Clark Fork River near the Huson sampling station (approximately 6 miles downstream of the mill site). The tissue from the sucker showed levels of various PCB congeners exceeding environmental or human health guidelines, as well as detectable amounts of 2,3,7,8-TCDF. The rainbow trout was analyzed only for dioxins and furans but also showed a detectable amount of 2,3,7,8-TCDF (EPA 1992b). Fish tissue was not collected as part of the current investigation.

8.3 GROUNDWATER PATHWAY AND TARGETS

The Smurfit-Stone Mill site is located adjacent to the Clark Fork River. The mill is underlain by a shallow alluvial sand and gravel aquifer. The alluvial aquifer is approximately 25 to 35 feet thick beneath the mill site and thins to the east (Hydrometrics 2004).

The fine-grained Lake Missoula sediments extend underneath the shallow alluvial gravels and are approximately 120 to 150 feet thick (Grimestad 1992). These sediments are underlain by a thick coarse-grained alluvial aquifer, which is the principal water supply aquifer for both the mill and for local ranches (Hydrometrics and Inskeep 2004). Depth to groundwater within the shallow alluvial (unconfined) aquifer varied across the site from 6.5 to 26.3 feet during October 2011 sampling (Table 2).

Groundwater flow directions in the shallow alluvial aquifer are generally to the west and north in the vicinity of the mill, towards the river. However, flow directions vary seasonally in response to areal recharge, water level fluctuations in the mill's wastewater storage ponds, seasonal changes in the stage of the Clark Fork River, and seasonal flows in irrigation ditches (Hydrometrics and Inskeep 2004). Groundwater velocity measured in background wells on the mill site average 4

feet per day, and hydraulic conductivity measured across the entire mill site averages approximately 335 feet per day (Grimestad 1992).

Ponds built at the site were not lined, and percolation of wastewater through the bottom of the ponds into the shallow alluvial aquifer was relied on as a means of water disposal (MDHES 1974, Smurfit-Stone 2004). As such, the shallow alluvial aquifer has been contaminated with mill effluent. As reported by the MDHES in the Environmental Impact Statement for the proposed expansion of the mill:

> *The shallow aquifer underlying the effluent storage ponds contains considerable seepage water from the pond system. Pond wastes have also entered the deep aquifer in the vicinity of the plant. The quality of percolated wastewaters is significantly inferior to natural groundwater* (MDHES 1974, page 180).

In addition, Grimestad has stated:

> *…ongoing Mill chemical sampling indicates that the underlying groundwaters are already carrying a significant load of the expected leachate constituent chemicals from nearby storage pond and effluent-distribution ditch leakage* (Grimestad 1992, page 11).

Numerous drinking water wells exist within 4 miles of the site (Table 5), including seven private domestic wells located along the northern boundary of the site and within the groundwater mixing zone boundary for the site effluent (Hydrometrics and Inskeep 2004). All of the wells are completed in the deeper aquifer (total depths range from 141.5 to 169 feet bgs).

All municipal water supply systems in the local area utilize groundwater (EPA 2011). The nearest municipal wells to the mill are two adjacent public supply wells for the Magnolia Estates located at 13475 Mullan Road, approximately 700 feet from the mill property boundary (and 1 mile upgradient from sludge pond 17) (MBMG 2011). The next closest public supply wells are associated with the Frenchtown Valley View Trailer Court, located approximately 0.5 mile north of the northern boundary of the mill.

There are an estimated 4,364 people within 4 miles of the site who use groundwater domestically. A summary of commercial and private wells located within a 4-mile radius of the mill site is provided in Table 5 below:

TABLE 5
Domestic Wells within a 4 Mile Radius of the Smurfit-Stone Mill Site

Radius (in miles)	Number of Wells	Estimated Population Served*
0 – 0.25	57	140
0.25 – 0.50	63	155
0.50 – 1.0	156	384
1.0 – 2.0	362	891
2.0 – 3.0	677	1665
3.0 – 4.0	459	1129
Total	**1,774**	**4,364**

* Assumes one well per household and 2.46 persons per household for Missoula County.
Sources: State of Montana, Department of Natural Resources and Conservation, Water Resources Division, 2011; US Census Bureau 2010 census (U.S. Census Bureau 2011).

The mill also used groundwater for the facility water supply. The Montana Groundwater Information Center lists over 40 wells registered by various previous owners of the mill property for industrial, fire protection, monitoring, and domestic use (MBMG 2011). The present status of these wells, and the intentions that M2Green have for their future use or abandonment, is not clear.

UOS collected groundwater release samples from 15 locations in the shallow aquifer and 6 locations in the deep aquifer in late October 2011. No groundwater release samples were collected from the deep aquifer beneath the source areas.

Analysis of shallow groundwater release samples indicates numerous metals and dioxins/furan congeners were present at elevated concentrations. Aluminum, arsenic, iron, manganese, sodium, and various dioxins/furan congeners were present at elevated levels in all samples from the shallow aquifer. Arsenic, barium, calcium, chromium, manganese, nickel, potassium, zinc, and a number of dioxins/furan congeners were present at elevated levels in both source samples and groundwater samples, and of these, arsenic, manganese, and dioxins/furans are the most widespread at the time of this investigation.

In addition, chlorobenzene, ethylbenzene, o-xylene, m,p-xylene, and isopropylbenzene were present at elevated concentrations in SSGW05 (shallow aquifer groundwater sample located within or downgradient of landfill A). Isopropylbenzene was present at an elevated concentration in one subsurface source sample (from sludge pond 5). The two groundwater samples containing the highest concentrations and largest number of elevated dioxins/furans were SSGW04 (shallow

well located downgradient of sludge pond 3) and SSGW05 (shallow well located downgradient of landfill A).

As you move further away from the sludge ponds and landfills, fewer elevated metals and dioxins/furans were present in shallow aquifer samples. In addition, samples taken further from the sludge ponds and landfills generally had metals and dioxins/furans concentrations an order of magnitude lower than those located closer to the sludge ponds and landfills.

Iron exceeded the MDEQ Human Health Standards for groundwater in all shallow groundwater samples. Barium, chromium, and manganese exceeded the MCL, the SCDM RDSC, and/or the MDEQ Human Health Standards for groundwater in several shallow groundwater samples. The MDEQ Human Health Standard for iron was exceeded by one deep aquifer groundwater sample. The SCDM CRSC was exceeded by four dioxin congeners and two furan congeners, with most of the exceedances in samples SSGW04 and SSGW05.

Currently, no known users of shallow groundwater exist, and the deep aquifer in the area of residences located north of the site and crossgradient of the sources, appears to be unimpacted. However, the deep aquifer immediately beneath the site was not sampled during this investigation. The closest deep aquifer well sample to the mill was taken from a private well located approximately 2 miles north (generally crossgradient) of the source areas sampled during this investigation.

Although both Grimestad and Hydrometrics reported that groundwater flow occurs from the deeper aquifer upwards to the shallow aquifer, in the Environmental Impact Statement for the proposed expansion of the mill, MDHES reported that although there was a poor vertical hydraulic connection between the aquifers, pond wastes had already entered the deep aquifer due to leakage from the upper to the lower aquifer (MDHES 1974).

8.4 SOIL EXPOSURE PATHWAY AND TARGETS

The Smurfit-Stone Mill site has numerous soil sources of waste. It is not clear if site workers regularly access these sources. In October 2011, UOS collected surface and subsurface soil samples from a number of potential source areas. The sources examined and confirmed through chemical analysis as a part of this investigation include 4 sludge ponds (sludge ponds 3, 4, 5 and 17), an emergency spill pond (pond 8, with two separate cells), an exposed soil pile adjacent to landfill A, one wastewater storage pond (pond 2), and a soil landfarming area (Tables 9 through

18, Figure 2). Additional potential soil sources at the site that were not characterized as part of this assessment include 11 additional wastewater storage ponds, 3 wastewater treatment aeration basins, and 2 polishing ponds.

The identified sources lack covering material and are sparsely vegetated. Sludge pond 3 is partially covered with wood chips. Soil exposure targets could include an unknown number of workers who are conducting salvage operations (e.g., removing equipment) from the industrial core of the mill. The number of current workers on site is unknown, but workers were present during the site reconnaissance and during sampling activities.

At the time of the sampling in October 2011, the sludge ponds and emergency spill pond contained standing puddles of water, and the soil was very soft. Pond 3 had recently been covered with 10 to 12 inches of wood chips, reportedly for dust control (Marxer 2011). In late September 2011, the Missoula County Health Department reported that they had received citizen complaints regarding airborne emissions from the settling ponds at the mill. These complaints were reported during a dry spell and a windy period. One complainant described a plume of dust approximately 250 feet high and 0.5 mile wide and smaller plumes of approximately 100 feet high on 2 subsequent days (MCCHD 2011).

After being capped with 18 inches of clay and 6 inches of topsoil, formal closure of the three former landfill areas occurred in September 1995 (MDEQ 1995). These areas are currently largely revegetated.

The nearest residences are located in a small development approximately 0.5 mile east and southeast of the core industrial area (and within 0.25 mile of the mill property boundary). In addition, a ranch that lies within the boundary of the site is located approximately 1 mile due north of the industrial area of the mill site. Access to the core industrial area of the site is controlled, and there were security guards present at the facility entrance during the site reconnaissance. The entire site was not fenced and access could be gained from the Clark Fork River. Evidence of recreational activities (e.g., ATV tracks, discarded beer cans) was not observed on or near any of the source areas during field work in October 2011.

Population within 4 miles of the site is shown in Table 6 below:

TABLE 6
Population within a 4-Mile Radius of the Smurfit-Stone Mill Site

Distance from Site	Population (# of persons)
On Site	0
0 – 0.25 Mile	241
>0.25 – 0.5 Mile	218
>0.5 – 1 Mile	85
>1 – 2 Miles	838
>2 – 3 Miles	1,836
>3 – 4 Miles	1,030
Total population within 4 miles	**4,248**

Source: U.S. Census Bureau 2010.

Threatened and endangered species are described in the Surface Water Pathway section above.

UOS collected surface soil/source samples from 17 locations (including 1 background location). All of these samples were collected from areas suspected to be sources. No soil samples were collected from nearby non-source areas to determine whether observed contamination in sources had spread to adjacent soils.

Soils from 0-2 feet bgs are to be considered when assessing the soil exposure pathway under the HRS. Surface soil/source sample locations contained observed contamination (defined as concentrations greater than 3 times background concentrations; i.e., elevated concentrations) in the form of the following analytes:

- 4-methylphenol was detected in surface soils from sludge ponds 4 and 5 and in surface soils from the emergency spill pond.
- Naphthalene and phenanthrene were detected in the surface soil from the emergency spill pond.
- As many as 15 dioxin/furan congeners were detected at elevated concentrations in all surface soil source samples collected. Total-TCDD was detected at elevated levels in all source samples collected, with the highest concentrations being documented in sludge ponds 17 and 3.
- Antimony, arsenic, barium, cadmium, calcium, chromium, lead, manganese, nickel, potassium, silver, and zinc were elevated in at least one surface soil sample. The metals

that were elevated in the most samples were barium (three samples), cadmium (four samples), manganese (seven samples), and calcium (eight samples).

- Locations containing elevated metals include all four sludge ponds (however, the only metal elevated in sludge pond 5 was calcium), the emergency spill pond, and the soil pile adjacent to landfill A.

Concentrations of benzo(a)pyrene exceeded the SCDMs RDSC or CRSC benchmarks in one surface soil sample from the emergency spill pond. Arsenic exceeded the SCDMs RDSC or CRSC benchmarks in surface soils at all locations sampled, including the background location. There were no other SCDM benchmark exceedances for those metals that have a benchmark available. In addition, multiple dioxins/furans exceeded the SCDM CRSCs in samples from sludge ponds 3 and 7 and the emergency spill pond.

8.5 AIR PATHWAY AND TARGETS

The air pathway was not evaluated as a part of this site reassessment because of the very low population density in the Smurfit-Stone Mill area and the fact that the ground surface is snow-covered for at approximately 4 months out of the year.

The mill site is located in a semiarid climate zone. Prevailing wind direction is from the northwest. It is feasible that particulate contaminants (e.g., from the surface of the dry, uncovered sludge ponds) could be blown off site.

Total wetlands acreage (as computed from existing USFWS NWI mapping) within 4 miles of the mill site boundary is shown in Table 7 below. It should be noted that more detailed provisional wetland maps generated by the MTNHP have recently become available. The acreage within Table 7 below is taken from the older USFWS data. It is expected that total wetlands acreage from both sources would be similar.

TABLE 7
USFWS-Identified Wetlands within 4 Miles of the Smurfit-Stone Mill Site

Distance from Site	Wetlands (acres)
On Site	986
0 – 0.25 Mile	261
>0.25 – 0.5 Mile	84
>0.25 – 1 Mile	260

TABLE 7
USFWS-Identified Wetlands within 4 Miles of the Smurfit-Stone Mill Site

Distance from Site	Wetlands (acres)
>1 – 2 Miles	420
>2 – 3 Miles	430
>3 – 4 Miles	227
Total acres within 4 Miles	**2,668**

Source: USFWS 2011a, National Wetlands Inventory.

Access to the core industrial area of the site is controlled, and there were security guards present at the facility entrance during the site reconnaissance. The entire site was not fenced, however, and access could also be gained from the Clark Fork River. The nearest residences are located in a small development approximately 0.5 mile east and southeast of the core industrial area (and within 0.25 mile of the mill property boundary).

9.0 DATA QUALITY ANALYSIS

9.1 DATA QUALITY OBJECTIVES

The EPA DQO Process is a seven-step systematic planning approach to develop acceptance or performance criteria for EPA-funded projects. The project team identified the surface water and soil exposure pathways, and to a lesser extent, the groundwater pathway, as the likely pathways of most potential concern at the site. Surface water and sediment samples were used to determine if there was a significant release of contaminants in the surface water pathway, and groundwater samples were used to determine if there was a significant release to groundwater. Currently, the impact to groundwater was limited to the shallow aquifer, which does not appear to be utilized. Soil samples were collected from waste sources to determine the potential for contamination to exist in soils and to migrate to other pathways.

The principal goal of this SI was to conduct a limited, initial field investigation at the mill to determine if a time-critical removal is necessary to protect human health and the environment. The primary study questions for this investigation that were answered by the results of this investigation were:

1.) Determining if landfills, wastewater storage pits, sludge ponds, and an emergency spill pond contained elevated concentrations of PCBs, VOCs, SVOCs, dioxins, furans, metals and/or asbestos;
2.) Determining if groundwater in the vicinity of the site and surface water and sediments in O'Keefe Creek and the Clark Fork River were impacted by sources at the site;
3.) Determining if environmental sample concentrations exceed applicable benchmarks; and
4.) Determining if elevated concentrations of metals identified in groundwater, surface water, and sediments are attributable to the sources at the paper mill.

Nineteen surface soil source samples (including 2 replicate samples and 1 background sample) and 8 subsurface soil source samples were collected from several different potential source areas. Seventeen shallow aquifer groundwater samples (including 1 duplicate sample and 1 background sample) and 6 deep aquifer groundwater samples (including 1 duplicate sample and 1 background sample) were collected. Ten co-located sediment and surface water locations (including 2 background locations) were sampled (10 surface water samples and 10 sediment samples) as part of the assessment, including 3 sample locations from O'Keefe Creek and 7 sample locations from the Clark Fork River (UOS 2011c).

All analytical data have been reviewed and verified to ensure that data is acceptable for the intended use (Appendix E). The Data Quality Objectives for this project have been met, and the data collected is of sufficient quality to answer the study questions.

9.2 DATA VALIDATION AND INTERPRETATION

All data were validated by a third party subcontracted chemist from TechLaw, Inc. according to the document "EPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review," dated January 2010. Raw data were reviewed for completeness and transcription accuracy on to the summary forms. Approximately 10 to 20 percent of the results reported in each of the samples, calibrations, and quality control analyses were recalculated and verified. If problems were identified during the recalculation of results, a more thorough calculation check was performed.

There were 10 sample data groups: H30Q0, H30S7, H30T6, H30X4, MH3BA0, MH3BA1, MH30S4, MH30S8, MH30T9, MH30Z9. Each data group has a corresponding data validation

package. There were some qualifications applied to each data package associated with this sampling event. Descriptions of each qualification are summarized in the Review Narrative Summary at the front of each package and detailed in various subsequent review sections. In brief, the reasons given for data qualification were blank contamination, negative blank contamination, inductively-coupled plasma (ICP) interference, matrix spike recovery issues, and serial dilution criteria not being met.

All data are deemed acceptable for use as qualified in the data validation reports. The data validation reports, laboratory Form 1s, chains-of-custody, and SQL calculations are presented in Appendix E.

10.0 MEASUREMENT QUALITY OBJECTIVES

10.1 FIELD QUALITY CONTROL PROCEDURES

All samples were handled and preserved as described in TSOP 4.2, "Sample Containers, Preservation, and Maximum Holding Times." Calibration of the pH, temperature, and conductivity meters followed instrument manufacturers' instruction manuals and TSOP 4.14, "Water Sample Field Measurements." Sample collection generally progressed from downstream to upstream to prevent cross-contamination (UOS 2005b).

The following samples were collected to evaluate quality assurance at the site in accordance with the "Guidance for Performing Site Inspections under CERCLA," Interim Final September 1992, the "Region 8 Supplement to Guidance for Performing Site Inspections under CERCLA," and the UOS Generic QAPP (EPA 1992, 1993; UOS 2005a):

- A field replicate sample and a double-volume soil sample were both collected at the SSSO1302 and SSSO1402 locations. The replicated samples were labeled SSSO99 and SSSO89, respectively, and the double-volume samples were used for MS/MSDs. The relative percentage differences between the primary samples and the duplicate samples are shown in the analytical tables. The extra volume samples were not labeled as separate samples, and the replicate samples were blind to the laboratory.
- One field groundwater duplicate was collected at both the SSSGW10 and SSSGW26 locations. The duplicate samples, labeled SSGW89 and SSSGW99, respectively, were blind to the lab. The relative percentage differences between the primary and duplicate

samples are shown in the analytical tables. In addition, a triple volume sample (not labeled as a separate sample) was collected at SSSGW10 and used for MS/MSD.

- One field rinsate blank (SSSW89) and two trip blanks (SSSW99A and SSSW99B) were collected.

The UOS Generic QAPP serves as the primary guide for the integration of QA/QC procedures for the START contract (UOS 2005a).

10.2 DATA QUALITY ASSESSMENT

Quality attributes are qualitative and quantitative characteristics of the collected data. The principle quality attributes to environmental studies are bias, sensitivity, precision, representativeness, comparability, and completeness. Data quality indicators (DQIs) are specific indicators of quality attributes. The following DQIs were considered during the review of field collection techniques and field QA/QC results, as well as laboratory QA/QC:

10.2.1 Bias

Bias is systematic or persistent distortion of a measurement process that causes errors in one direction. The extent of bias can be determined by an evaluation of laboratory initial calibration/continuing calibration verification, laboratory control samples, interference checks, spike duplicates, blank spike, MS/MSD, method blank, and trip blank.

A review of the validation forms for soil, sediment, and water samples detected a high bias in the data sets MH3BA0 and MH3BA1 for beryllium, silver, and thallium; in the data sets MH30S4 and MH30S8 for antimony, arsenic, beryllium, cadmium, and vanadium. There was a positive interference for these metals in the ICP interference check samples.

Due to negative blank contamination, a negative bias was assigned for cadmium in data set MH3BA0, for silver in data set MH30S4, and for potassium in data set MH30S8. A negative bias as a result of ICP interference was also assigned to data sets MH30S4 and MH30S8 for silver.

10.2.2 Sensitivity

Sensitivity generally refers to the capability of a method or instrument to discriminate between small differences in analyte concentration and is generally discussed as detection limits. Before sampling begins, it is important to compare detection limits and project requirements in order to select a method with the necessary detection limits to meet the project goals. The detection limits are described in the analytical methods.

All detection limits met the CLP requirements; therefore, all sensitivity requirements for the project were met.

The SCDM CRSC for benzo(a)pyrene and dibenz(a,h)anthracene in surface source soils is 82 micrograms per kilogram (µg/kg), lower than the CRQL for the CLP Program (170 µg/kg). Both of the samples in which benzo(a)pyrene was detected were above the SCDM CRSC. Therefore, it is possible that benzo(a)pyrene is present in additional samples at concentrations exceeding the CRSC. In addition, the MDEQ Human Health Standards for Surface Water, MCLs, SCDM CRSCs, and MDEQ Human Health Standards for Groundwater for benzo(a)pyrene and dibenz(a,h)anthracene are 1 to 2 orders of magnitude lower than the CRQLs for these compounds (3.3 micrograms per liter [µg/L]).

10.2.3 Precision

Precision is the measure of agreement among repeated measurements of the same property under identical, or substantially similar, conditions and is expressed as the relative percent difference (RPD) between the sample pairs. The field duplicates and MS/MSDs were used to evaluate precision.

Results are generally deemed acceptable if the RPD between the sample pairs is < 35 percent for soils and sediments, and < 20 percent for waters. The results outside of the acceptable range were:

- an RPD of 45 percent for aroclor-1254 between the surface soil sample SSSO1402 and its replicate SSSO8902;
- an RPD of 36 percent for bis(2-ethylhexyl)phthalate between the surface soil sample SSSO1302 and its replicate SSSO9902;

- an RPD of 67 percent for selenium between the surface soil sample SSSO1302 and its replicate SSSO9902;
- an RPD of 29 percent for dissolved lead between the groundwater sample SSGW10 and its replicate SSGW89; and
- an RPD of 21 percent for dissolved zinc between the groundwater sample SSGW10 and its replicate SSGW89.

RPD results are presented in the analytical tables.

10.2.4 Representativeness

Representativeness is the measure of the degree to which data accurately and precisely represent a characteristic of a population parameter, variations at a sampling point, a process condition, or an environmental condition. Representativeness was achieved by adherence to TSOPs for sampling procedures, field and laboratory QA/QC procedures, appropriateness of sample material collected, analytical method and sample preparation, and achievement of acceptance criteria documented in the FSP for the project. Various deviations from the FSP were documented within Section 3.0 of the SAR (UOS 2011c) and are listed again below:

- Proposed subsurface soil samples SSSO10xx (sludge pond 5), SSSO12xx (sludge pond 4), and SSSO14xx (emergency spill pond 8, wet cell); and Geoprobe® groundwater samples SSGW06 (sludge pond 4) and SSGW09 (emergency spill pond 8, wet cell) were not collected as the track-mounted Geoprobe® could not safely access these proposed sampling locations due to a soft surface (Photo 1).
- Geoprobe® groundwater sampling location SSGW07 was moved from within sludge pond 5 to a location on the berm between sludge ponds 4 and 5, due to the lack of safe access for the Geoprobe® to the proposed sampling location (Photo 2).
- Proposed subsurface soil sampling locations SSSO11xx (sludge pond 4) and SSSO09xx (sludge pond 5) were moved from the center of each pond to the edge, due to the lack of safe access for the Geoprobe® to the proposed sampling locations (Photo 3).

- Surface soil samples SSSO0702, SSSO1002, SSSO1202, and SSSO1402 were collected directly from the surface of ponds with disposable plastic scoops, rather than from Geoprobe® macro-core sleeves, due to the lack of safe access for the Geoprobe® to the proposed sampling locations (Photo 4).
- Surface soil samples SSSO0502 and SSSO0602 were collected directly from the surface of ponds with disposable plastic scoops, rather than from Geoprobe® macro-core sleeves, in order to expedite the sampling schedule (i.e., they were collected prior to the arrival of the Geoprobe® on site).
- Domestic well locations SSGW19, SSGW20, SSGW21, and SSGW22 were not sampled, because the wells could not be located on the ground, or access to sample was either not granted or pursued. Domestic well SSGW23 (15762 Marcure Lane) was located approximately 0.25 mile northwest of its assumed location.
- Opportunity sample SSSO1702 was added to the sample plan, being collected from an area of what appeared to be exposed soil/sludge adjacent to landfill A (Photo 5).
- The second soil/source replicate sample SSSO9902 was collected from a sludge location, rather than a sediment location, to ensure that a sufficient number of replicates were collected for the sludge matrix.
- The second groundwater duplicate sample SSGW99 was collected from the SSGW26 location (15400 Marcure Lane) rather than the SSGW20 location as the owner of the well at the SSGW20 location was not available to grant access.

10.2.5 Comparability

Comparability is the qualitative term that expresses the confidence that two data sets can contribute to common interpretation and analysis and is used to describe how well samples within a data set, as well as two independent data sets, are interchangeable.

This is the first data set gathered from the site for the EPA. Comparability has been controlled by collecting all samples in one sampling event.

All samples were sent to a CLP laboratory or a private laboratory (asbestos and dioxins and furans), and all data were validated (Appendix E). All samples were collected using the same FSP, TSOPs, and sampling equipment; therefore, all sample data from this

event are internally comparable. These same methods and procedures will be used during any future sampling events to ensure comparability.

10.2.6 Completeness

Completeness is a measure of the amount of valid data obtained from a measurement system and is measured using the formula: *Percent Completeness = (Number of Valid Measurements / Number of Planned Measurements) x 100*. Excluding the opportunity samples that were added in the field, the percent completeness for this project was 88 percent. When adding the one opportunity sample collected in the field, the percent completeness increases to 89 percent. Samples were generally collected in accordance with the FSP, except for instances where access could not be gained, or where conditions in the field were different than expected or unsafe.

11.0 DATA GAPS

Upon completion of field work for this project and the receipt and review of analytical data, several key data gaps have emerged. These include:

- Additional sampling of other potential sources at the site (e.g., 11 wastewater storage ponds) and the core industrial area, as well as the overland flow segment between sludge pond 17 and O'Keefe Creek, and between wastewater storage pond 2 and the Clark Fork River;
- Sampling of the deep aquifer directly beneath the site, to confirm prior reports that it has been contaminated;
- Confirmation of the current groundwater flow direction (expected to be generally west towards the Clark Fork River);
- Volume estimates of known sources;
- Off-site soil sampling to determine if site contaminants have been transported to areas near residents, workers, or sensitive environments;
- Documentation of the source of potable water for on-site workers;
- Documentation of the potential for on-site workers to access known sources;
- Field verification of HRS-eligible wetlands (i.e., meeting the definition of a wetlands as outlined in 40 CRF 230.0) along the Clark Fork River and O'Keefe Creek within the 15-mile TDL; and
- Documentation of human fish consumption along the 15-mile TDL.

12.0 SUMMARY

The Smurfit-Stone Mill is located in west-central Montana, approximately 11 miles northeast of the town of Missoula, Montana, in Missoula County. The Smurfit-Stone Mill was a large integrated pulp and paper mill that was in operation from 1957 through early 2010.

A number of potential sources of contamination were identified during the preliminary assessment of the site. Only four sludge ponds, the emergency spill pond, one wastewater storage pond, and the landfarming area were intended to be targeted for sampling during this assessment, as they were determined to have the highest potential for containing hazardous substances, or, in the case of the wastewater storage pond, were considered to be most at risk in the event of a catastrophic flood. An additional potential source (what appeared to be exposed soil/sludge adjacent to landfill A) was identified and also sampled during the assessment. All of these potential source areas were confirmed to contain hazardous substances through chemical analysis during this investigation (Tables 8 through 17, Figure 2). Other potential sources at the site that were not characterized as part of this assessment include 11 additional wastewater storage ponds, 3 wastewater treatment aeration basins, and 2 polishing ponds. Additional potential sources likely exist on the site, particularly in the core industrial area, which was not investigated.

Based upon the risks associated with the hazardous substances thought possibly to be present on the site, the project team identified the surface water and soil exposure, and to a lesser extent, the groundwater pathway, as the pathways of potential concern at the site. Site impact to groundwater was confirmed for the shallow aquifer, which does not appear to be utilized. The deeper aquifer appeared not to be affected, but sampling of this aquifer occurred only in domestic wells located some distance crossgradient of source areas, and in one background location.

Analytical results that indicate observed contamination, an observed release, or compounds present at concentrations exceeding benchmarks for the surface water, soil exposure, and groundwater pathways are discussed in the following paragraphs.

Analysis of surface water samples indicated elevated concentrations of dissolved manganese in the Clark Fork River. Concentrations of total arsenic exceeded the MDEQ Aquatic Life Standards (Chronic) and Human Health Standards (Surface Water) in all surface water samples collected (including background samples).

Analysis of sediment release samples indicated chromium and vanadium were each elevated in sediment at a single location in the Clark Fork River. Various dioxin and furan congeners were present at elevated concentrations in all sediment release samples collected.

A number of organic compounds, including 4-methylphenol, naphthalene, phenanthrene, and several dioxin/furan congeners were found at elevated concentrations in source samples. Total-TCDD was detected at elevated levels in all source samples collected. In addition, antimony, arsenic, barium, cadmium, calcium, chromium, lead, manganese, nickel, potassium, silver, and zinc were elevated in at least one surface soil sample. Concentrations of benzo(a)pyrene, arsenic, and multiple dioxin/furan congeners exceeded the SCDMs RDSC or CRSC benchmarks in surface soil/source samples. No soil samples were collected from non-source areas near the sources to determine whether observed contamination in sources had spread to adjacent soils.

Arsenic, barium, calcium, chromium, manganese, nickel, potassium, zinc, and a number of dioxin/furan congeners were present at elevated levels in shallow groundwater samples. In addition, chlorobenzene, ethylbenzene, o-xylene, m,p-xylene and isopropylbenzene were present at elevated concentrations in SSGW05 (shallow aquifer groundwater sample located within or downgradient of landfill A). Isopropylbenzene was present at an elevated concentration in one subsurface source sample (from sludge pond 5). Concentrations of iron, barium, chromium, manganese, and a few dioxin/furan congeners exceeded the MCL, the SCDM CRSC and/or RDSC, and/or the MDEQ Human Health Standards for groundwater in shallow groundwater samples.

Between sediment sampling locations SSSE05 (adjacent to pond 2) and sediment sampling location SSSE10 (just downstream of outfall 4) there exist eight individual palustrine emergent wetlands totalling approximately 1.55 frontage miles, and three palustrine scrub-shrub wetlands totaling approximately 0.35 frontage mile (Appendix E). The sediment sample SSSE05 was collected within an area mapped by the MTNHP as palustrine emergent wetlands and the sediment sample SSSE06 was collected within an area mapped as palustrine scrub-shrub wetlands. HRS-eligible wetlands occurring downstream of sample location SSSE10 have not been calculated for this report.

A narrow stretch of palustrine emergent wetland is also mapped within O'Keefe Creek, along the eastern border of pond 1A (Appendix E).

The entire length of the 15-mile TDL is considered a fishery with a MFWP fishery resource value of 1 (Outstanding). The 423-acre MFWP Erskine fishing access site begins approximately 2.5 miles

downstream of the mill site and stretches for approximately 2.5 river miles. There were an estimated 37,996 angling days per year on this segment of the Clark Fork River in 2009. It is assumed that fish are caught for consumption, but evidence of this has not been gathered.

Numerous river rafting companies offer float trips on the Clark Fork River, although it is not clear if any float the segment of the river adjacent to the mill site.

The river segment adjacent to the mill is listed as a Wildlife Protected Area as it is a bald eagle nesting area, a big game critical wintering area, and a historical peregrine falcon nesting area. Threatened, endangered, and protected species present within Missoula County include the bald eagle, grizzly bear, Water Howellia, Canadian lynx, and bull trout.

The Clark Fork River has been identified as nodal habitat for the federally listed endangered bull trout. Nodal habitats are defined as waters that provide migratory corridors and over-wintering areas, or are otherwise critical to the population at some point in its life history. Nodal waters are essential for the survival of migratory bull trout.

There is no documentation that surface water from the Clark Fork River within the 15-mile downstream limit is used as a source of drinking water. All records indicate that drinking water in the area is sourced from the deep aquifer.

In late September 2011, the Missoula County Health Department reported that they had received citizen complaints regarding airborne emissions (dust) from the settling ponds at the mill. These complaints were reported during a dry spell and a windy period. One complainant described a plume of dust approximately 250 feet high and 0.5 mile wide and smaller plumes of approximately 100 feet high plumes on 2 subsequent days. The nearest residences are located in a small development approximately 0.5 mile east and southeast of the core industrial area (and within 0.25 mile of the mill property boundary). In addition, a ranch that lies within the boundary of the site is located approximately 1 mile due north of the industrial area of the mill site. Soils near these residences have not been tested to determine whether airborne emissions from the site could be depositing contaminated soil and impacting residents via the soil exposure pathway, and air has not been tested to determine whether contaminated dust is posing a threat to residents via the air pathway.

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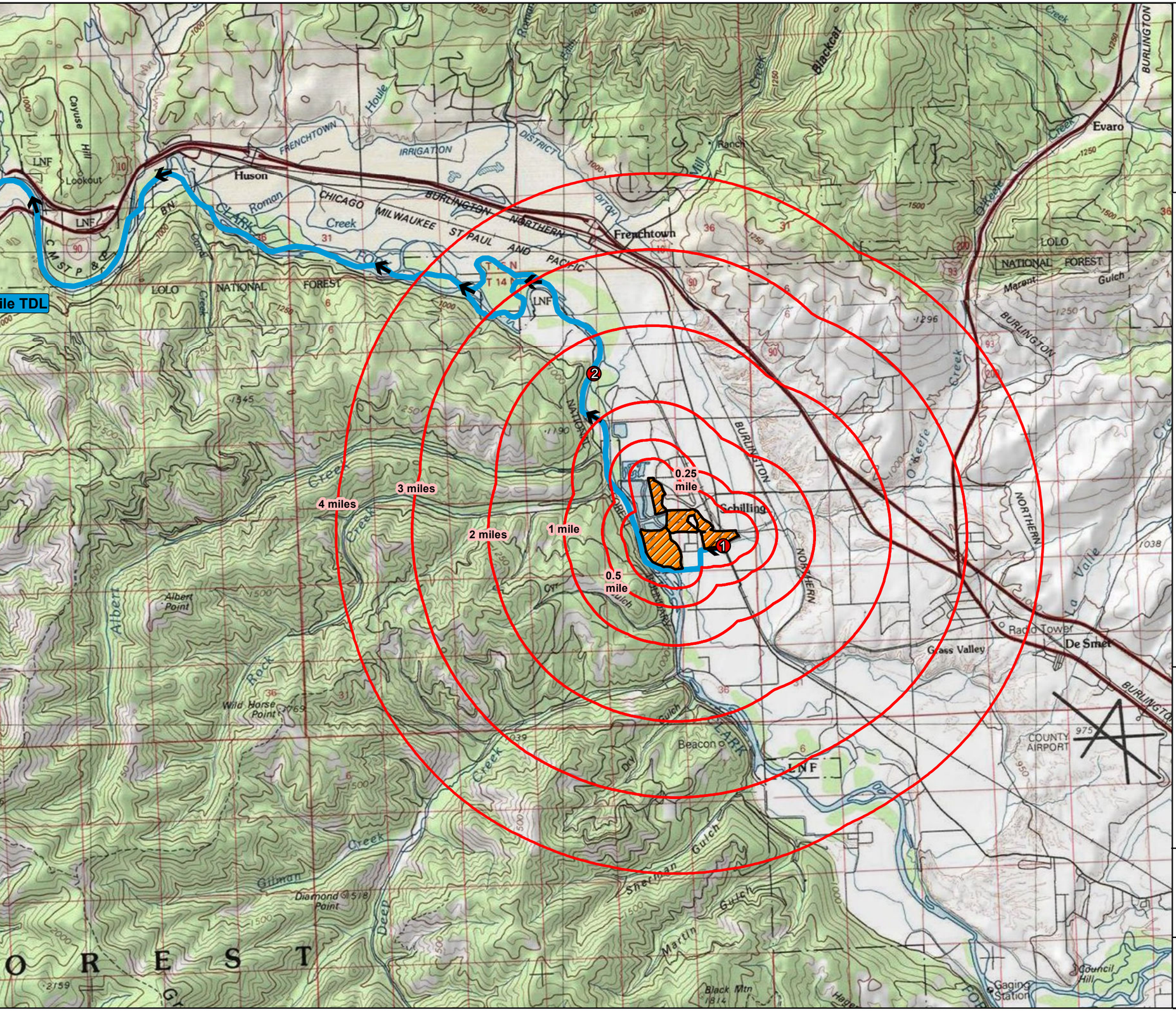

Legend

LABEL

- ① Most Upstream PPE
- ② Furthest Downstream PPE
- Source Areas
- 4-Mile Area of Influence
- 15-Mile Target Distance Limit (TDL)

TDD Title: **Smurfit-Stone Mill RA and SI**

Figure Title: Site Location, Area of Influence, and 15-Mile Downstream Target Distance Limit (TDL)

Figure No. 1
TDD State: MT
TDD County: Missoula
TDD: 1105-09
Date: 08/2012

Base Data Source: Bing Maps 2011
Datum/Projection: NAD 1983 UTM Zone 11N
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Miles
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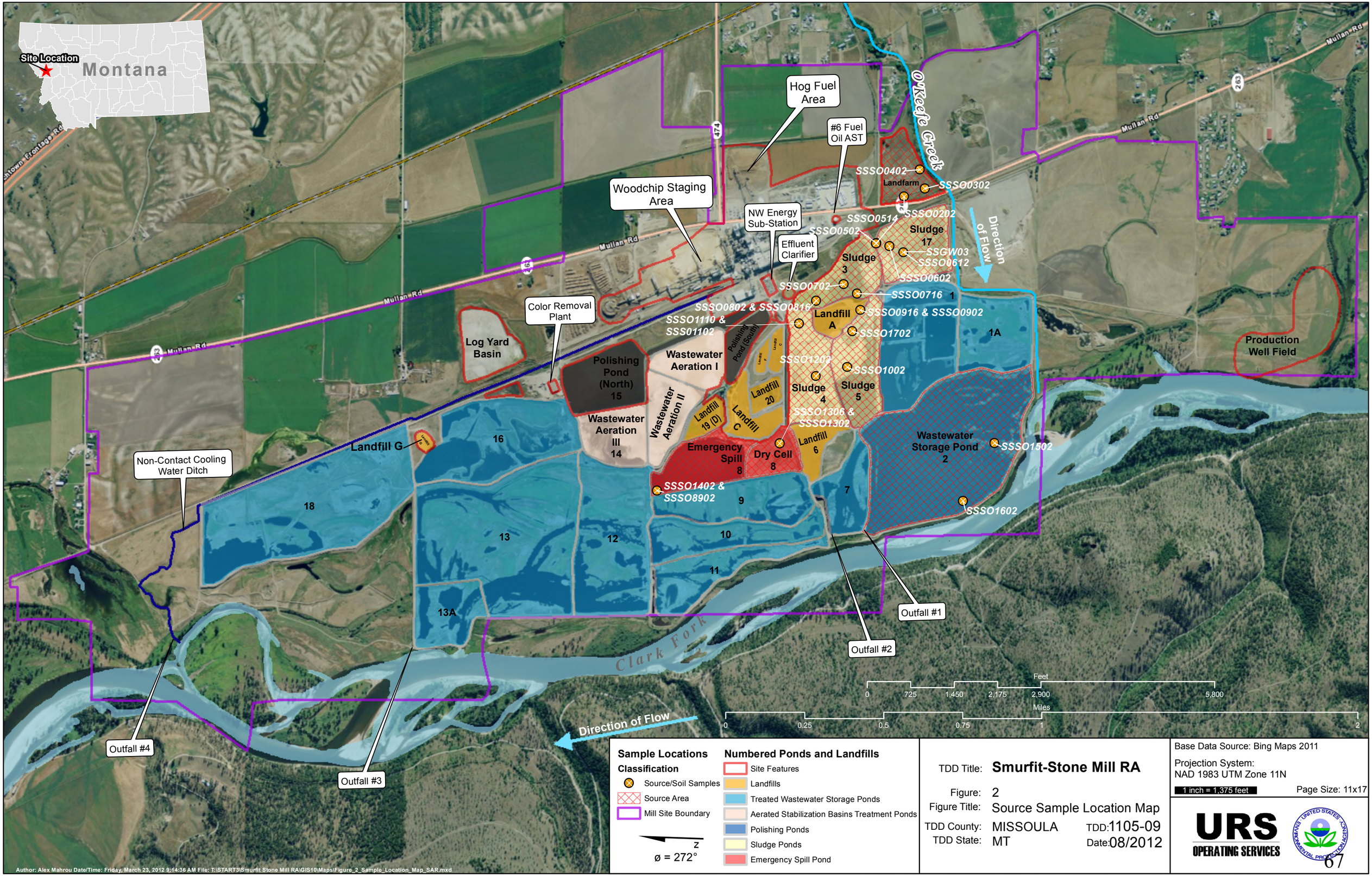

Sample Locations

Classification

- Source/Soil Samples
- Source Area
- Mill Site Boundary

z
ø = 272°

Numbered Ponds and Landfills

- Site Features
- Landfills
- Treated Wastewater Storage Ponds
- Aerated Stabilization Basins Treatment Ponds
- Polishing Ponds
- Sludge Ponds
- Emergency Spill Pond

TDD Title: **Smurfit-Stone Mill RA**

Figure: 2
Figure Title: Source Sample Location Map
TDD County: MISSOULA TDD:1105-09
TDD State: MT Date:08/2012

Base Data Source: Bing Maps 2011
Projection System: NAD 1983 UTM Zone 11N
1 inch = 1,375 feet
Page Size: 11x17

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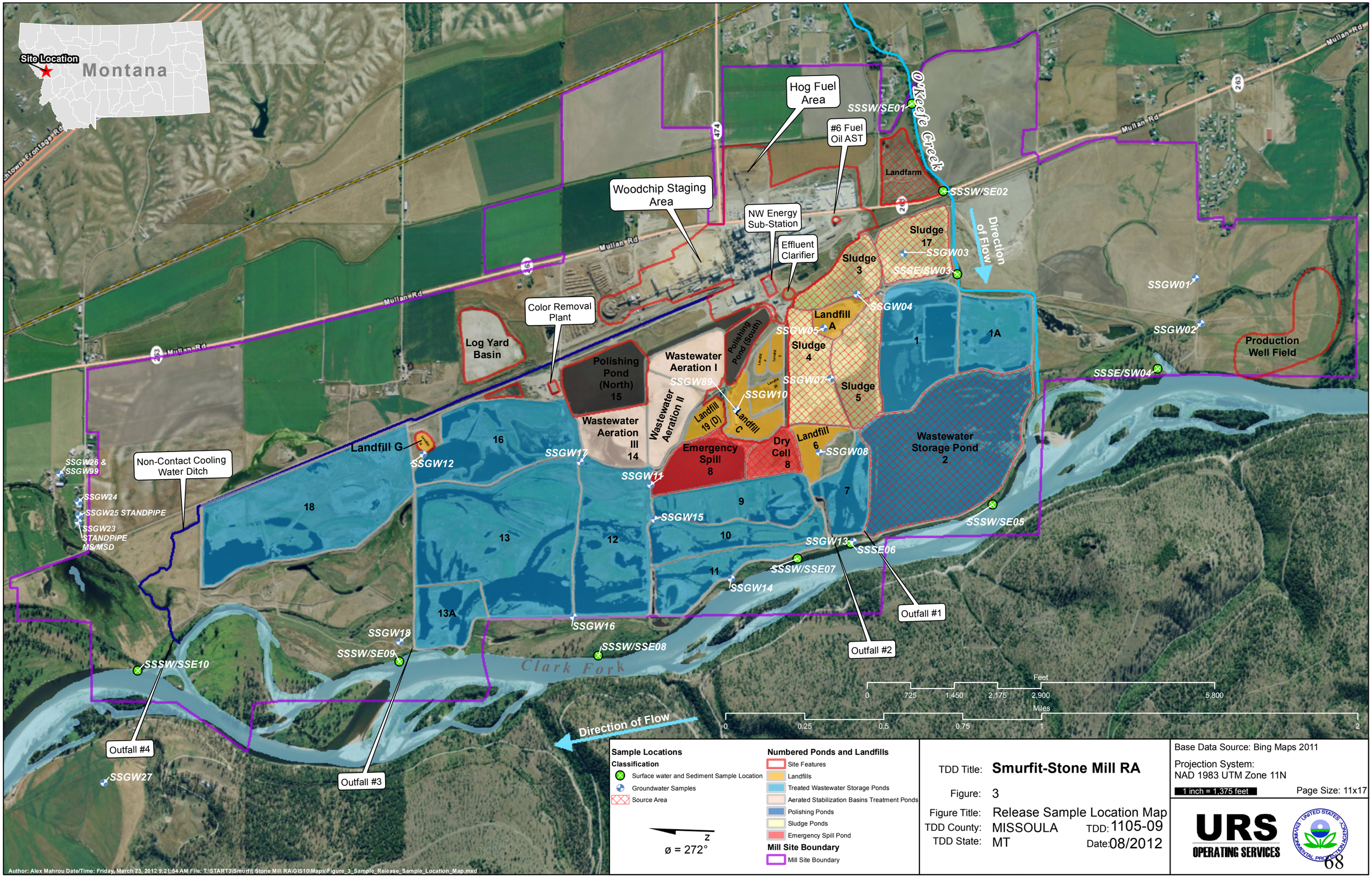


Sample Locations

Classification

- Surface water and Sediment Sample Location
- Groundwater Samples
- Source Area

z
ø = 272°

Numbered Ponds and Landfills

- Site Features
- Landfills
- Treated Wastewater Storage Ponds
- Aerated Stabilization Basins Treatment Ponds
- Polishing Ponds
- Sludge Ponds
- Emergency Spill Pond

Mill Site Boundary

- Mill Site Boundary

TDD Title: **Smurfit-Stone Mill RA**

Figure: 3

Figure Title: Release Sample Location Map

TDD County: MISSOULA TDD: 1105-09

TDD State: MT Date: 08/2012

Base Data Source: Bing Maps 2011

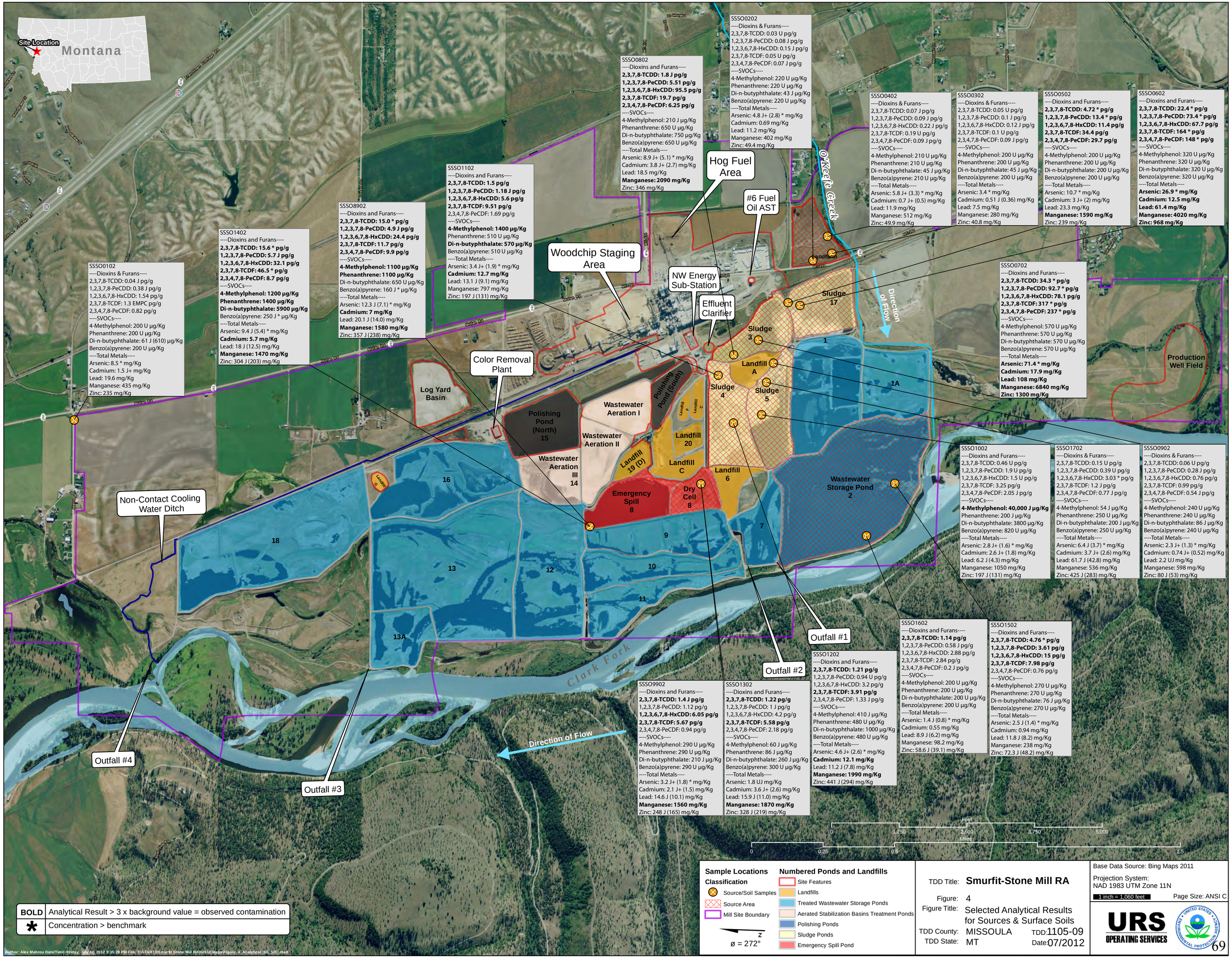
Projection System: NAD 1983 UTM Zone 11N

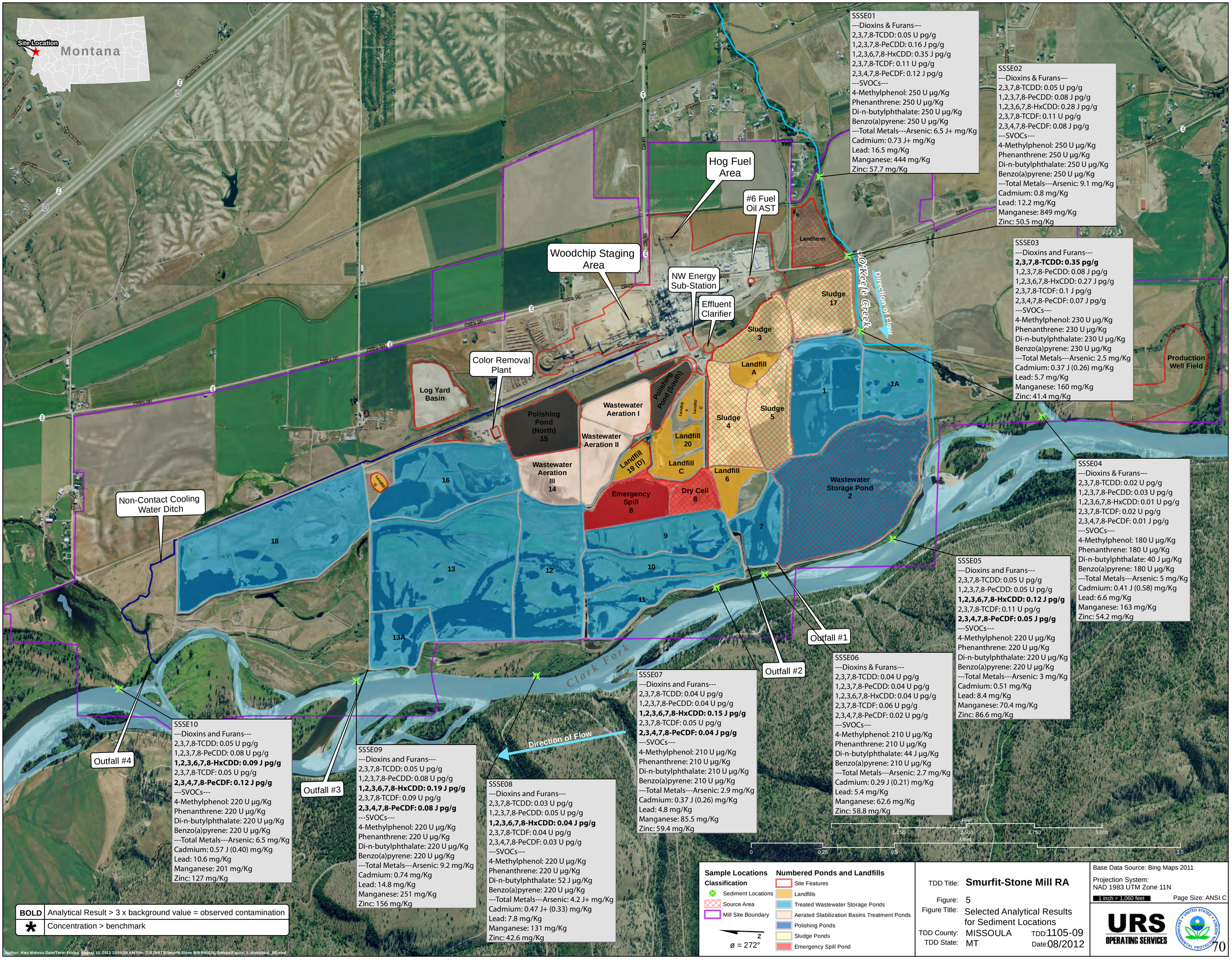
1 inch = 1,375 feet

Page Size: 11x17

URS OPERATING SERVICES

Author: Alex Mahrou Date/Time: Friday, March 23, 2012 9:21:54 AM File: T:\START3\Smurfit Stone Mill RA\GIS10\Maps\Figure_3_Sample_Release_Sample_Location_Map.mxd


Site Location
Montana
SSSO0202
----Dioxins & Furans----
2,3,7,8-TCDD: 0.03 U pg/g
1,2,3,7,8-PeCDD: 0.08 J pg/g
1,2,3,6,7,8-HxCDD: 0.15 J pg/g
2,3,7,8-TCDF: 0.05 U pg/g
2,3,4,7,8-PeCDF: 0.07 J pg/g
----SVOCs----
4-Methylphenol: 220 U µg/Kg
Phenanthrene: 220 U µg/Kg
Di-n-butyphthalate: 43 J µg/Kg
Benzo(a)pyrene: 220 U µg/Kg
----Total Metals----
Arsenic: 4.8 J+ (2.8) * mg/Kg
Cadmium: 0.69 mg/Kg
Lead: 11.2 mg/Kg
Manganese: 402 mg/Kg
Zinc: 49.4 mg/Kg
SSSO0802
----Dioxins and Furans----
2,3,7,8-TCDD: 1.8 J pg/g
1,2,3,7,8-PeCDD: 5.51 pg/g
1,2,3,6,7,8-HxCDD: 95.5 pg/g
2,3,7,8-TCDF: 19.7 pg/g
2,3,4,7,8-PeCDF: 6.25 pg/g
----SVOCs----
4-Methylphenol: 210 J µg/Kg
Phenanthrene: 650 U µg/Kg
Di-n-butyphthalate: 750 µg/Kg
Benzo(a)pyrene: 650 U µg/Kg
----Total Metals----
Arsenic: 8.9 J+ (5.1) * mg/Kg
Cadmium: 3.8 J+ (2.7) mg/Kg
Lead: 18.5 mg/Kg
Manganese: 2090 mg/Kg
Zinc: 346 mg/Kg
SSSO1102
----Dioxins and Furans----
2,3,7,8-TCDD: 1.5 pg/g
1,2,3,7,8-PeCDD: 1.18 J pg/g
1,2,3,6,7,8-HxCDD: 5.6 pg/g
2,3,7,8-TCDF: 9.51 pg/g
2,3,4,7,8-PeCDF: 1.69 pg/g
----SVOCs----
4-Methylphenol: 1400 µg/Kg
Phenanthrene: 510 U µg/Kg
Di-n-butyphthalate: 570 µg/Kg
Benzo(a)pyrene: 510 U µg/Kg
----Total Metals----
Arsenic: 3.4 J+ (1.9) * mg/Kg
Cadmium: 12.7 mg/Kg
Lead: 13.1 J (9.1) mg/Kg
Manganese: 797 mg/Kg
Zinc: 197 J (131) mg/Kg
SSSO8902
----Dioxins and Furans----
2,3,7,8-TCDD: 15.0 * pg/g
1,2,3,7,8-PeCDD: 4.9 J pg/g
1,2,3,6,7,8-HxCDD: 24.4 pg/g
2,3,7,8-TCDF: 11.7 pg/g
2,3,4,7,8-PeCDF: 9.9 pg/g
----SVOCs----
4-Methylphenol: 1100 µg/Kg
Phenanthrene: 1100 µg/Kg
Di-n-butyphthalate: 650 U µg/Kg
Benzo(a)pyrene: 160 J * µg/Kg
----Total Metals----
Arsenic: 12.3 J (7.1) * mg/Kg
Cadmium: 7 mg/Kg
Lead: 20.1 J (14.0) mg/Kg
Manganese: 1580 mg/Kg
Zinc: 357 J (238) mg/Kg
SSSO1402
----Dioxins and Furans----
2,3,7,8-TCDD: 15.6 * pg/g
1,2,3,7,8-PeCDD: 5.7 J pg/g
1,2,3,6,7,8-HxCDD: 32.1 pg/g
2,3,7,8-TCDF: 46.5 * pg/g
2,3,4,7,8-PeCDF: 8.7 pg/g
----SVOCs----
4-Methylphenol: 1200 µg/Kg
Phenanthrene: 1400 µg/Kg
Di-n-butyphthalate: 5900 µg/Kg
Benzo(a)pyrene: 250 J * µg/Kg
----Total Metals----
Arsenic: 9.4 J (5.4) * mg/Kg
Cadmium: 5.7 mg/Kg
Lead: 18 J (12.5) mg/Kg
Manganese: 1470 mg/Kg
Zinc: 304 J (203) mg/Kg
SSSO0102
----Dioxins & Furans----
2,3,7,8-TCDD: 0.04 J pg/g
1,2,3,7,8-PeCDD: 0.38 J pg/g
1,2,3,6,7,8-HxCDD: 1.54 pg/g
2,3,7,8-TCDF: 1.3 EMPC pg/g
2,3,4,7,8-PeCDF: 0.82 pg/g
----SVOCs----
4-Methylphenol: 200 U µg/Kg
Phenanthrene: 200 U µg/Kg
Di-n-butyphthalate: 61 J (610) µg/Kg
Benzo(a)pyrene: 200 U µg/Kg
----Total Metals----
Arsenic: 8.5 * mg/Kg
Cadmium: 1.5 J+ mg/Kg
Lead: 19.6 mg/Kg
Manganese: 435 mg/Kg
Zinc: 235 mg/Kg
SSSO0402
----Dioxins & Furans----
2,3,7,8-TCDD: 0.07 J pg/g
1,2,3,7,8-PeCDD: 0.09 J pg/g
1,2,3,6,7,8-HxCDD: 0.22 J pg/g
2,3,7,8-TCDF: 0.19 U pg/g
2,3,4,7,8-PeCDF: 0.09 J pg/g
----SVOCs----
4-Methylphenol: 210 U µg/Kg
Phenanthrene: 210 U µg/Kg
Di-n-butyphthalate: 45 J µg/Kg
Benzo(a)pyrene: 210 U µg/Kg
----Total Metals----
Arsenic: 5.8 J+ (3.3) * mg/Kg
Cadmium: 0.7 J+ (0.5) mg/Kg
Lead: 11.9 mg/Kg
Manganese: 512 mg/Kg
Zinc: 49.9 mg/Kg
SSSO0302
----Dioxins & Furans----
2,3,7,8-TCDD: 0.05 U pg/g
1,2,3,7,8-PeCDD: 0.1 J pg/g
1,2,3,6,7,8-HxCDD: 0.12 J pg/g
2,3,7,8-TCDF: 0.1 U pg/g
2,3,4,7,8-PeCDF: 0.09 J pg/g
----SVOCs----
4-Methylphenol: 200 U µg/Kg
Phenanthrene: 200 U µg/Kg
Di-n-butyphthalate: 45 J µg/Kg
Benzo(a)pyrene: 200 U µg/Kg
----Total Metals----
Arsenic: 3.4 * mg/Kg
Cadmium: 0.51 J (0.36) mg/Kg
Lead: 7.5 mg/Kg
Manganese: 280 mg/Kg
Zinc: 40.8 mg/Kg
SSSO0502
----Dioxins and Furans----
2,3,7,8-TCDD: 4.72 * pg/g
1,2,3,7,8-PeCDD: 13.4 * pg/g
1,2,3,6,7,8-HxCDD: 11.4 pg/g
2,3,7,8-TCDF: 34.4 pg/g
2,3,4,7,8-PeCDF: 29.7 pg/g
----SVOCs----
4-Methylphenol: 200 U µg/Kg
Phenanthrene: 200 U µg/Kg
Di-n-butyphthalate: 200 U µg/Kg
Benzo(a)pyrene: 200 U µg/Kg
----Total Metals----
Arsenic: 10.7 * mg/Kg
Cadmium: 3 J+ (2) mg/Kg
Lead: 23.3 mg/Kg
Manganese: 1590 mg/Kg
Zinc: 239 mg/Kg
SSSO0602
----Dioxins and Furans----
2,3,7,8-TCDD: 22.4 * pg/g
1,2,3,7,8-PeCDD: 73.4 * pg/g
1,2,3,6,7,8-HxCDD: 67.7 pg/g
2,3,7,8-TCDF: 164 * pg/g
2,3,4,7,8-PeCDF: 148 * pg/g
----SVOCs----
4-Methylphenol: 320 U µg/Kg
Phenanthrene: 320 U µg/Kg
Di-n-butyphthalate: 320 U µg/Kg
Benzo(a)pyrene: 320 U µg/Kg
----Total Metals----
Arsenic: 26.9 * mg/Kg
Cadmium: 12.5 mg/Kg
Lead: 61.4 mg/Kg
Manganese: 4020 mg/Kg
Zinc: 968 mg/Kg
SSSO0702
----Dioxins and Furans----
2,3,7,8-TCDD: 34.3 * pg/g
1,2,3,7,8-PeCDD: 92.7 * pg/g
1,2,3,6,7,8-HxCDD: 78.1 pg/g
2,3,7,8-TCDF: 317 * pg/g
2,3,4,7,8-PeCDF: 237 * pg/g
----SVOCs----
4-Methylphenol: 570 U µg/Kg
Phenanthrene: 570 U µg/Kg
Di-n-butyphthalate: 570 U µg/Kg
Benzo(a)pyrene: 570 U µg/Kg
----Total Metals----
Arsenic: 71.4 * mg/Kg
Cadmium: 17.9 mg/Kg
Lead: 108 mg/Kg
Manganese: 6840 mg/Kg
Zinc: 1300 mg/Kg
SSSO1002
----Dioxins and Furans----
2,3,7,8-TCDD: 0.46 U pg/g
1,2,3,7,8-PeCDD: 1.9 U pg/g
1,2,3,6,7,8-HxCDD: 1.5 U pg/g
2,3,7,8-TCDF: 3.25 pg/g
2,3,4,7,8-PeCDF: 2.05 J pg/g
----SVOCs----
4-Methylphenol: 40,000 J µg/Kg
Phenanthrene: 200 J µg/Kg
Di-n-butyphthalate: 3800 µg/Kg
Benzo(a)pyrene: 820 U µg/Kg
----Total Metals----
Arsenic: 2.8 J+ (1.6) * mg/Kg
Cadmium: 2.6 J+ (1.8) mg/Kg
Lead: 6.2 J (4.3) mg/Kg
Manganese: 1050 mg/Kg
Zinc: 197 J (131) mg/Kg
SSSO1702
----Dioxins & Furans----
2,3,7,8-TCDD: 0.15 U pg/g
1,2,3,7,8-PeCDD: 0.39 U pg/g
1,2,3,6,7,8-HxCDD: 3.03 * pg/g
2,3,7,8-TCDF: 1.2 J pg/g
2,3,4,7,8-PeCDF: 0.77 J pg/g
----SVOCs----
4-Methylphenol: 54 J µg/Kg
Phenanthrene: 250 U µg/Kg
Di-n-butyphthalate: 200 J µg/Kg
Benzo(a)pyrene: 250 U µg/Kg
----Total Metals----
Arsenic: 6.4 J (3.7) * mg/Kg
Cadmium: 3.7 J+ (2.6) mg/Kg
Lead: 61.7 J (42.8) mg/Kg
Manganese: 536 mg/Kg
Zinc: 425 J (283) mg/Kg
SSSO0902
----Dioxins & Furans----
2,3,7,8-TCDD: 0.06 U pg/g
1,2,3,7,8-PeCDD: 0.28 J pg/g
1,2,3,6,7,8-HxCDD: 0.76 pg/g
2,3,7,8-TCDF: 0.99 pg/g
2,3,4,7,8-PeCDF: 0.54 J pg/g
----SVOCs----
4-Methylphenol: 240 U µg/Kg
Phenanthrene: 240 U µg/Kg
Di-n-butyphthalate: 86 J µg/Kg
Benzo(a)pyrene: 240 U µg/Kg
----Total Metals----
Arsenic: 2.3 J+ (1.3) * mg/Kg
Cadmium: 0.74 J+ (0.52) mg/Kg
Lead: 2.2 UJ mg/Kg
Manganese: 598 mg/Kg
Zinc: 80 J (53) mg/Kg
SSSO1602
----Dioxins and Furans----
2,3,7,8-TCDD: 1.14 pg/g
1,2,3,7,8-PeCDD: 0.58 J pg/g
1,2,3,6,7,8-HxCDD: 2.88 pg/g
2,3,7,8-TCDF: 2.84 pg/g
2,3,4,7,8-PeCDF: 0.2 J pg/g
----SVOCs----
4-Methylphenol: 200 U µg/Kg
Phenanthrene: 200 U µg/Kg
Di-n-butyphthalate: 200 U µg/Kg
Benzo(a)pyrene: 200 U µg/Kg
----Total Metals----
Arsenic: 1.4 J (0.8) * mg/Kg
Cadmium: 0.55 mg/Kg
Lead: 8.9 J (6.2) mg/Kg
Manganese: 98.2 mg/Kg
Zinc: 58.6 J (39.1) mg/Kg
SSSO1502
----Dioxins and Furans----
2,3,7,8-TCDD: 4.76 * pg/g
1,2,3,7,8-PeCDD: 3.61 pg/g
1,2,3,6,7,8-HxCDD: 15 pg/g
2,3,7,8-TCDF: 7.98 pg/g
2,3,4,7,8-PeCDF: 0.76 pg/g
----SVOCs----
4-Methylphenol: 270 U µg/Kg
Phenanthrene: 270 U µg/Kg
Di-n-butyphthalate: 76 J µg/Kg
Benzo(a)pyrene: 270 U µg/Kg
----Total Metals----
Arsenic: 2.5 J (1.4) * mg/Kg
Cadmium: 0.94 mg/Kg
Lead: 11.8 J (8.2) mg/Kg
Manganese: 238 mg/Kg
Zinc: 72.3 J (48.2) mg/Kg
SSSO1202
----Dioxins and Furans----
2,3,7,8-TCDD: 1.21 pg/g
1,2,3,7,8-PeCDD: 0.94 U pg/g
1,2,3,6,7,8-HxCDD: 3.2 pg/g
2,3,7,8-TCDF: 3.91 pg/g
2,3,4,7,8-PeCDF: 1.33 J pg/g
----SVOCs----
4-Methylphenol: 410 J µg/Kg
Phenanthrene: 480 U µg/Kg
Di-n-butyphthalate: 1000 µg/Kg
Benzo(a)pyrene: 480 U µg/Kg
----Total Metals----
Arsenic: 4.6 J+ (2.6) * mg/Kg
Cadmium: 12.1 mg/Kg
Lead: 11.2 J (7.8) mg/Kg
Manganese: 1990 mg/Kg
Zinc: 441 J (294) mg/Kg
SSSO9902
----Dioxins and Furans----
2,3,7,8-TCDD: 1.4 J pg/g
1,2,3,7,8-PeCDD: 1.12 pg/g
1,2,3,6,7,8-HxCDD: 6.05 pg/g
2,3,7,8-TCDF: 5.67 pg/g
2,3,4,7,8-PeCDF: 0.94 pg/g
----SVOCs----
4-Methylphenol: 290 U µg/Kg
Phenanthrene: 290 U µg/Kg
Di-n-butyphthalate: 210 J µg/Kg
Benzo(a)pyrene: 290 U µg/Kg
----Total Metals----
Arsenic: 3.2 J+ (1.8) * mg/Kg
Cadmium: 2.1 J+ (1.5) mg/Kg
Lead: 14.6 J (10.1) mg/Kg
Manganese: 1560 mg/Kg
Zinc: 248 J (165) mg/Kg
SSSO1302
----Dioxins and Furans----
2,3,7,8-TCDD: 1.22 pg/g
1,2,3,7,8-PeCDD: 1 J pg/g
1,2,3,6,7,8-HxCDD: 4.2 pg/g
2,3,7,8-TCDF: 5.58 pg/g
2,3,4,7,8-PeCDF: 2.18 pg/g
----SVOCs----
4-Methylphenol: 60 J µg/Kg
Phenanthrene: 86 J µg/Kg
Di-n-butyphthalate: 260 J µg/Kg
Benzo(a)pyrene: 300 U µg/Kg
----Total Metals----
Arsenic: 1.8 UJ mg/Kg
Cadmium: 3.6 J+ (2.6) mg/Kg
Lead: 15.9 J (11.0) mg/Kg
Manganese: 1870 mg/Kg
Zinc: 328 J (219) mg/Kg
Hog Fuel Area
#6 Fuel Oil AST
Woodchip Staging Area
NW Energy Sub-Station
Effluent Clarifier
O'Keefe Creek
Landfarm
Sludge 17
Direction of Flow
Sludge 3
Landfill A
Sludge 4
Sludge 5
1
1A
Production Well Field
Color Removal Plant
Log Yard Basin
Polishing Pond (North) 15
Polishing Pond (South)
Wastewater Aeration I
Wastewater Aeration II
Wastewater Aeration III 14
Landfill F
Landfill C
Landfill 20
Landfill 19 (D)
Landfill C
Landfill 6
Emergency Spill 8
Dry Cell 8
Wastewater Storage Pond 2
Non-Contact Cooling Water Ditch
16
18
13
12
9
10
11
7
13A
Clark Fork
Outfall #1
Outfall #2
Outfall #3
Outfall #4
Direction of Flow
Feet
0
1,250
2,500
3,750
5,000
Miles
0
0.25
0.5
1
1.5
BOLD
Analytical Result > 3 x background value = observed contamination
*
Concentration > benchmark
Sample Locations
Classification
Source/Soil Samples
Source Area
Mill Site Boundary
ø = 272°
Numbered Ponds and Landfills
Site Features
Landfills
Treated Wastewater Storage Ponds
Aerated Stabilization Basins Treatment Ponds
Polishing Ponds
Sludge Ponds
Emergency Spill Pond
TDD Title: Smurfit-Stone Mill RA
Figure: 4
Figure Title: Selected Analytical Results for Sources & Surface Soils
TDD County: MISSOULA
TDD State: MT
TDD:1105-09
Date:07/2012
Base Data Source: Bing Maps 2011
Projection System:
NAD 1983 UTM Zone 11N
1 inch = 1,060 feet
Page Size: ANSI C
URS OPERATING SERVICES
Author: Alex Mahrou DateTime: Friday, July 20, 2012 3:35:29 PM File: T:\START3\Smurfit Stone Mill RA\GIS10\Maps\Figure_4_Analytical_SS_SO_.mxd



SSSE01
---Dioxins & Furans---
2,3,7,8-TCDD: 0.05 U pg/g
1,2,3,7,8-PeCDD: 0.16 J pg/g
1,2,3,6,7,8-HxCDD: 0.35 J pg/g
2,3,7,8-TCDF: 0.11 U pg/g
2,3,4,7,8-PeCDF: 0.12 J pg/g
---SVOCs---
4-Methylphenol: 250 U µg/Kg
Phenanthrene: 250 U µg/Kg
Di-n-butylphthalate: 250 U µg/Kg
Benzo(a)pyrene: 250 U µg/Kg
---Total Metals---Arsenic: 6.5 J+ mg/Kg
Cadmium: 0.73 J+ mg/Kg
Lead: 16.5 mg/Kg
Manganese: 444 mg/Kg
Zinc: 57.7 mg/Kg

SSSE02
---Dioxins & Furans---
2,3,7,8-TCDD: 0.05 U pg/g
1,2,3,7,8-PeCDD: 0.08 J pg/g
1,2,3,6,7,8-HxCDD: 0.28 J pg/g
2,3,7,8-TCDF: 0.11 U pg/g
2,3,4,7,8-PeCDF: 0.08 J pg/g
---SVOCs---
4-Methylphenol: 250 U µg/Kg
Phenanthrene: 250 U µg/Kg
Di-n-butylphthalate: 250 U µg/Kg
Benzo(a)pyrene: 250 U µg/Kg
---Total Metals---Arsenic: 9.1 mg/Kg
Cadmium: 0.8 mg/Kg
Lead: 12.2 mg/Kg
Manganese: 849 mg/Kg
Zinc: 50.5 mg/Kg

SSSE03
---Dioxins and Furans---
2,3,7,8-TCDD: 0.35 pg/g
1,2,3,7,8-PeCDD: 0.08 J pg/g
1,2,3,6,7,8-HxCDD: 0.27 J pg/g
2,3,7,8-TCDF: 0.1 J pg/g
2,3,4,7,8-PeCDF: 0.07 J pg/g
---SVOCs---
4-Methylphenol: 230 U µg/Kg
Phenanthrene: 230 U µg/Kg
Di-n-butylphthalate: 230 U µg/Kg
Benzo(a)pyrene: 230 U µg/Kg
---Total Metals---Arsenic: 2.5 mg/Kg
Cadmium: 0.37 J (0.26) mg/Kg
Lead: 5.7 mg/Kg
Manganese: 160 mg/Kg
Zinc: 41.4 mg/Kg

SSSE04
---Dioxins & Furans---
2,3,7,8-TCDD: 0.02 U pg/g
1,2,3,7,8-PeCDD: 0.03 U pg/g
1,2,3,6,7,8-HxCDD: 0.01 U pg/g
2,3,7,8-TCDF: 0.02 U pg/g
2,3,4,7,8-PeCDF: 0.01 J pg/g
---SVOCs---
4-Methylphenol: 180 U µg/Kg
Phenanthrene: 180 U µg/Kg
Di-n-butylphthalate: 40 J µg/Kg
Benzo(a)pyrene: 180 U µg/Kg
---Total Metals---Arsenic: 5 mg/Kg
Cadmium: 0.41 J (0.58) mg/Kg
Lead: 6.6 mg/Kg
Manganese: 163 mg/Kg
Zinc: 54.2 mg/Kg

SSSE05
---Dioxins and Furans---
2,3,7,8-TCDD: 0.05 U pg/g
1,2,3,7,8-PeCDD: 0.05 U pg/g
1,2,3,6,7,8-HxCDD: 0.12 J pg/g
2,3,7,8-TCDF: 0.11 U pg/g
2,3,4,7,8-PeCDF: 0.05 J pg/g
---SVOCs---
4-Methylphenol: 220 U µg/Kg
Phenanthrene: 220 U µg/Kg
Di-n-butylphthalate: 220 U µg/Kg
Benzo(a)pyrene: 220 U µg/Kg
---Total Metals---Arsenic: 3 mg/Kg
Cadmium: 0.51 mg/Kg
Lead: 8.4 mg/Kg
Manganese: 70.4 mg/Kg
Zinc: 86.6 mg/Kg

SSSE06
---Dioxins & Furans---
2,3,7,8-TCDD: 0.04 U pg/g
1,2,3,7,8-PeCDD: 0.04 U pg/g
1,2,3,6,7,8-HxCDD: 0.04 U pg/g
2,3,7,8-TCDF: 0.06 U pg/g
2,3,4,7,8-PeCDF: 0.02 U pg/g
---SVOCs---
4-Methylphenol: 210 U µg/Kg
Phenanthrene: 210 U µg/Kg
Di-n-butylphthalate: 44 J µg/Kg
Benzo(a)pyrene: 210 U µg/Kg
---Total Metals---Arsenic: 2.7 mg/Kg
Cadmium: 0.29 J (0.21) mg/Kg
Lead: 5.4 mg/Kg
Manganese: 62.6 mg/Kg
Zinc: 58.8 mg/Kg

SSSE07
---Dioxins and Furans---
2,3,7,8-TCDD: 0.04 U pg/g
1,2,3,7,8-PeCDD: 0.04 U pg/g
1,2,3,6,7,8-HxCDD: 0.15 J pg/g
2,3,7,8-TCDF: 0.05 U pg/g
2,3,4,7,8-PeCDF: 0.04 J pg/g
---SVOCs---
4-Methylphenol: 210 U µg/Kg
Phenanthrene: 210 U µg/Kg
Di-n-butylphthalate: 210 U µg/Kg
Benzo(a)pyrene: 210 U µg/Kg
---Total Metals---Arsenic: 2.9 mg/Kg
Cadmium: 0.37 J (0.26) mg/Kg
Lead: 4.8 mg/Kg
Manganese: 85.5 mg/Kg
Zinc: 59.4 mg/Kg

SSSE08
---Dioxins and Furans---
2,3,7,8-TCDD: 0.03 U pg/g
1,2,3,7,8-PeCDD: 0.05 U pg/g
1,2,3,6,7,8-HxCDD: 0.04 J pg/g
2,3,7,8-TCDF: 0.04 U pg/g
2,3,4,7,8-PeCDF: 0.03 U pg/g
---SVOCs---
4-Methylphenol: 220 U µg/Kg
Phenanthrene: 220 U µg/Kg
Di-n-butylphthalate: 52 J µg/Kg
Benzo(a)pyrene: 220 U µg/Kg
---Total Metals---Arsenic: 4.2 J+ mg/Kg
Cadmium: 0.47 J+ (0.33) mg/Kg
Lead: 7.8 mg/Kg
Manganese: 131 mg/Kg
Zinc: 42.6 mg/Kg

SSSE09
---Dioxins and Furans---
2,3,7,8-TCDD: 0.05 U pg/g
1,2,3,7,8-PeCDD: 0.08 U pg/g
1,2,3,6,7,8-HxCDD: 0.19 J pg/g
2,3,7,8-TCDF: 0.09 U pg/g
2,3,4,7,8-PeCDF: 0.08 J pg/g
---SVOCs---
4-Methylphenol: 220 U µg/Kg
Phenanthrene: 220 U µg/Kg
Di-n-butylphthalate: 220 U µg/Kg
Benzo(a)pyrene: 220 U µg/Kg
---Total Metals---Arsenic: 9.2 mg/Kg
Cadmium: 0.74 mg/Kg
Lead: 14.8 mg/Kg
Manganese: 251 mg/Kg
Zinc: 156 mg/Kg

SSSE10
---Dioxins and Furans---
2,3,7,8-TCDD: 0.05 U pg/g
1,2,3,7,8-PeCDD: 0.08 U pg/g
1,2,3,6,7,8-HxCDD: 0.09 J pg/g
2,3,7,8-TCDF: 0.05 U pg/g
2,3,4,7,8-PeCDF: 0.12 J pg/g
---SVOCs---
4-Methylphenol: 220 U µg/Kg
Phenanthrene: 220 U µg/Kg
Di-n-butylphthalate: 220 U µg/Kg
Benzo(a)pyrene: 220 U µg/Kg
---Total Metals---Arsenic: 6.5 mg/Kg
Cadmium: 0.57 J (0.40) mg/Kg
Lead: 10.6 mg/Kg
Manganese: 201 mg/Kg
Zinc: 127 mg/Kg

BOLD	Analytical Result > 3 x background value = observed contamination
*	Concentration > benchmark

Sample Locations
Classification
- Sediment Locations
- Source Area
- Mill Site Boundary

ø = 272°

Numbered Ponds and Landfills
- Site Features
- Landfills
- Treated Wastewater Storage Ponds
- Aerated Stabilization Basins Treatment Ponds
- Polishing Ponds
- Sludge Ponds
- Emergency Spill Pond

TDD Title: **Smurfit-Stone Mill RA**
Figure: 5
Figure Title: Selected Analytical Results for Sediment Locations
TDD County: MISSOULA
TDD State: MT
TDD: 1105-09
Date: 08/2012

Base Data Source: Bing Maps 2011
Projection System: NAD 1983 UTM Zone 11N
1 inch = 1,060 feet
Page Size: ANSI C

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Author: Alex Mahrou Date/Time: Friday, August 10, 2012 10:05:58 AM File: T:\START3\Smurfit Stone Mill RA\GIS\10\Maps\Figure_5_Analytical_SE.mxd

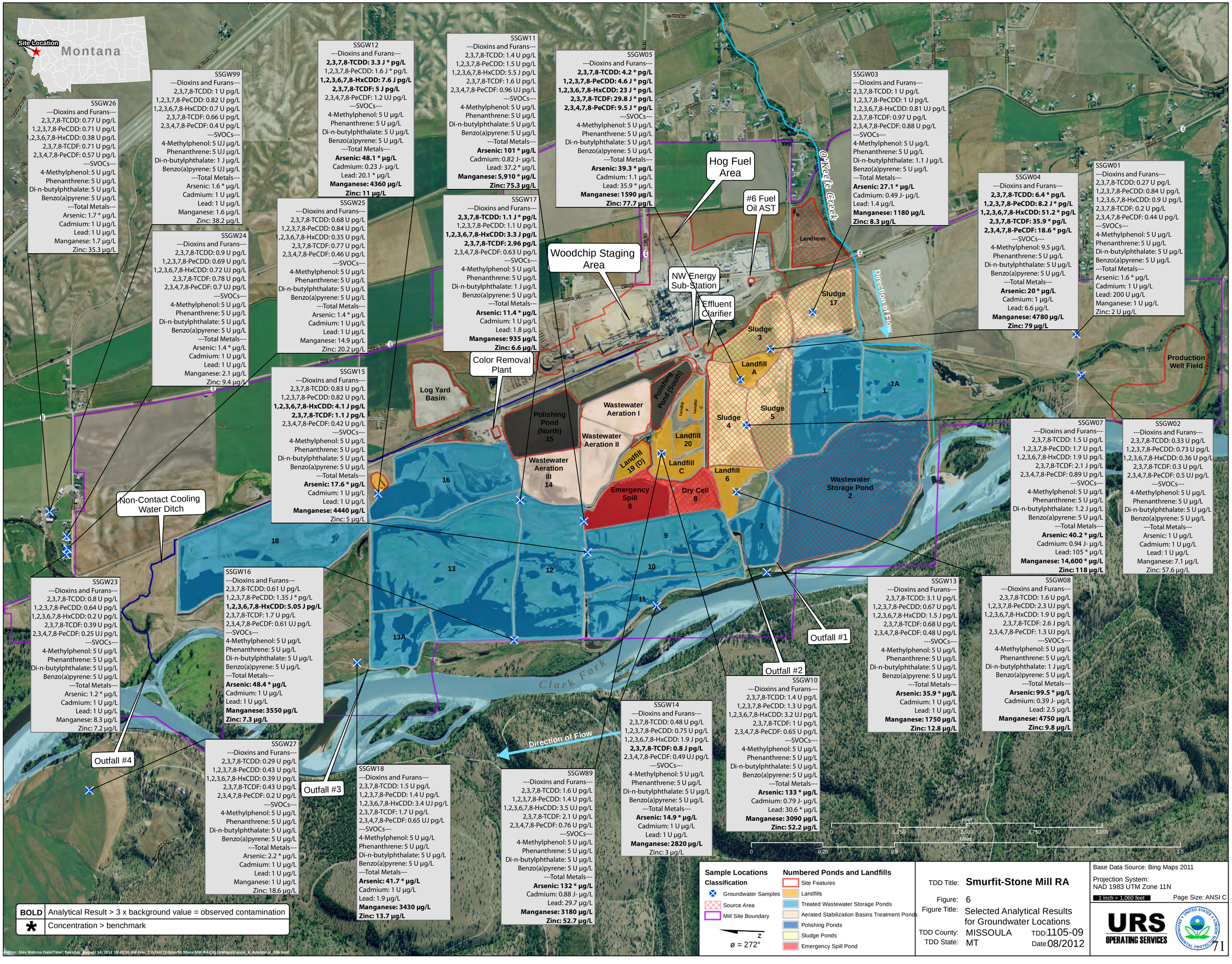
Site Location
Montana
SSGW26
---Dioxins and Furans---
2,3,7,8-TCDD: 0.77 U pg/L
1,2,3,7,8-PeCDD: 0.71 U pg/L
1,2,3,6,7,8-HxCDD: 0.38 U pg/L
2,3,7,8-TCDF: 0.71 U pg/L
2,3,4,7,8-PeCDF: 0.57 U pg/L
---SVOCs---
4-Methylphenol: 5 U µg/L
Phenanthrene: 5 U µg/L
Di-n-butylphthalate: 5 U µg/L
Benzo(a)pyrene: 5 U µg/L
---Total Metals---
Arsenic: 1.7 * µg/L
Cadmium: 1 U µg/L
Lead: 1 U µg/L
Manganese: 1.7 µg/L
Zinc: 35.3 µg/L
SSGW99
---Dioxins and Furans---
2,3,7,8-TCDD: 1 U pg/L
1,2,3,7,8-PeCDD: 0.82 U pg/L
1,2,3,6,7,8-HxCDD: 0.7 U pg/L
2,3,7,8-TCDF: 0.66 U pg/L
2,3,4,7,8-PeCDF: 0.4 U pg/L
---SVOCs---
4-Methylphenol: 5 U µg/L
Phenanthrene: 5 U µg/L
Di-n-butylphthalate: 1 J µg/L
Benzo(a)pyrene: 5 U µg/L
---Total Metals---
Arsenic: 1.6 * µg/L
Cadmium: 1 U µg/L
Lead: 1 U µg/L
Manganese: 1.6 µg/L
Zinc: 38.2 µg/L
SSGW24
---Dioxins and Furans---
2,3,7,8-TCDD: 0.9 U pg/L
1,2,3,7,8-PeCDD: 0.69 U pg/L
1,2,3,6,7,8-HxCDD: 0.72 UJ pg/L
2,3,7,8-TCDF: 0.78 U pg/L
2,3,4,7,8-PeCDF: 0.7 UJ pg/L
---SVOCs---
4-Methylphenol: 5 U µg/L
Phenanthrene: 5 U µg/L
Di-n-butylphthalate: 5 U µg/L
Benzo(a)pyrene: 5 U µg/L
---Total Metals---
Arsenic: 1.4 * µg/L
Cadmium: 1 U µg/L
Lead: 1 U µg/L
Manganese: 2.1 µg/L
Zinc: 9.4 µg/L
SSGW12
---Dioxins and Furans---
2,3,7,8-TCDD: 3.3 J * pg/L
1,2,3,7,8-PeCDD: 1.6 J * pg/L
1,2,3,6,7,8-HxCDD: 7.6 J pg/L
2,3,7,8-TCDF: 5 J pg/L
2,3,4,7,8-PeCDF: 1.2 UJ pg/L
---SVOCs---
4-Methylphenol: 5 U µg/L
Phenanthrene: 5 U µg/L
Di-n-butylphthalate: 5 U µg/L
Benzo(a)pyrene: 5 U µg/L
---Total Metals---
Arsenic: 48.1 * µg/L
Cadmium: 0.23 J- µg/L
Lead: 20.1 * µg/L
Manganese: 4360 µg/L
Zinc: 11 µg/L
SSGW25
---Dioxins and Furans---
2,3,7,8-TCDD: 0.68 U pg/L
1,2,3,7,8-PeCDD: 0.84 U pg/L
1,2,3,6,7,8-HxCDD: 0.35 U pg/L
2,3,7,8-TCDF: 0.77 U pg/L
2,3,4,7,8-PeCDF: 0.46 U pg/L
---SVOCs---
4-Methylphenol: 5 U µg/L
Phenanthrene: 5 U µg/L
Di-n-butylphthalate: 5 U µg/L
Benzo(a)pyrene: 5 U µg/L
---Total Metals---
Arsenic: 1.4 * µg/L
Cadmium: 1 U µg/L
Lead: 1 U µg/L
Manganese: 14.9 µg/L
Zinc: 20.2 µg/L
SSGW11
---Dioxins and Furans---
2,3,7,8-TCDD: 1.4 U pg/L
1,2,3,7,8-PeCDD: 1.5 U pg/L
1,2,3,6,7,8-HxCDD: 5.5 J pg/L
2,3,7,8-TCDF: 1.6 U pg/L
2,3,4,7,8-PeCDF: 0.96 UJ pg/L
---SVOCs---
4-Methylphenol: 5 U µg/L
Phenanthrene: 5 U µg/L
Di-n-butylphthalate: 5 U µg/L
Benzo(a)pyrene: 5 U µg/L
---Total Metals---
Arsenic: 101 * µg/L
Cadmium: 0.82 J- µg/L
Lead: 37.2 * µg/L
Manganese: 5,910 * µg/L
Zinc: 75.3 µg/L
SSGW17
---Dioxins and Furans---
2,3,7,8-TCDD: 1.1 J * pg/L
1,2,3,7,8-PeCDD: 1.1 U pg/L
1,2,3,6,7,8-HxCDD: 3.3 J pg/L
2,3,7,8-TCDF: 2.96 pg/L
2,3,4,7,8-PeCDF: 0.63 U pg/L
---SVOCs---
4-Methylphenol: 5 U µg/L
Phenanthrene: 5 U µg/L
Di-n-butylphthalate: 1 J µg/L
Benzo(a)pyrene: 5 U µg/L
---Total Metals---
Arsenic: 11.4 * µg/L
Cadmium: 1 U µg/L
Lead: 1.8 µg/L
Manganese: 935 µg/L
Zinc: 6.6 µg/L
SSGW15
---Dioxins and Furans---
2,3,7,8-TCDD: 0.83 U pg/L
1,2,3,7,8-PeCDD: 0.82 U pg/L
1,2,3,6,7,8-HxCDD: 4.1 J pg/L
2,3,7,8-TCDF: 1.1 J pg/L
2,3,4,7,8-PeCDF: 0.42 U pg/L
---SVOCs---
4-Methylphenol: 5 U µg/L
Phenanthrene: 5 U µg/L
Di-n-butylphthalate: 5 U µg/L
Benzo(a)pyrene: 5 U µg/L
---Total Metals---
Arsenic: 17.6 * µg/L
Cadmium: 1 U µg/L
Lead: 1 U µg/L
Manganese: 4440 µg/L
Zinc: 5 µg/L
SSGW05
---Dioxins and Furans---
2,3,7,8-TCDD: 4.2 * pg/L
1,2,3,7,8-PeCDD: 4.6 J * pg/L
1,2,3,6,7,8-HxCDD: 23 J * pg/L
2,3,7,8-TCDF: 29.8 J * pg/L
2,3,4,7,8-PeCDF: 9.5 J * pg/L
---SVOCs---
4-Methylphenol: 5 U µg/L
Phenanthrene: 5 U µg/L
Di-n-butylphthalate: 5 U µg/L
Benzo(a)pyrene: 5 U µg/L
---Total Metals---
Arsenic: 39.3 * µg/L
Cadmium: 1.1 µg/L
Lead: 35.9 * µg/L
Manganese: 1590 µg/L
Zinc: 77.7 µg/L
SSGW03
---Dioxins and Furans---
2,3,7,8-TCDD: 1 U pg/L
1,2,3,7,8-PeCDD: 1 U pg/L
1,2,3,6,7,8-HxCDD: 0.81 UJ pg/L
2,3,7,8-TCDF: 0.97 U pg/L
2,3,4,7,8-PeCDF: 0.88 U pg/L
---SVOCs---
4-Methylphenol: 5 U µg/L
Phenanthrene: 5 U µg/L
Di-n-butylphthalate: 1.1 J µg/L
Benzo(a)pyrene: 5 U µg/L
---Total Metals---
Arsenic: 27.1 * µg/L
Cadmium: 0.49 J- µg/L
Lead: 1.4 µg/L
Manganese: 1180 µg/L
Zinc: 8.3 µg/L
SSGW04
---Dioxins and Furans---
2,3,7,8-TCDD: 6.4 * pg/L
1,2,3,7,8-PeCDD: 8.2 J * pg/L
1,2,3,6,7,8-HxCDD: 51.2 * pg/L
2,3,7,8-TCDF: 35.9 * pg/L
2,3,4,7,8-PeCDF: 18.6 * pg/L
---SVOCs---
4-Methylphenol: 9.5 µg/L
Phenanthrene: 5 U µg/L
Di-n-butylphthalate: 5 U µg/L
Benzo(a)pyrene: 5 U µg/L
---Total Metals---
Arsenic: 20 * µg/L
Cadmium: 1 µg/L
Lead: 6.6 µg/L
Manganese: 4780 µg/L
Zinc: 79 µg/L
SSGW01
---Dioxins and Furans---
2,3,7,8-TCDD: 0.27 U pg/L
1,2,3,7,8-PeCDD: 0.84 U pg/L
1,2,3,6,7,8-HxCDD: 0.9 U pg/L
2,3,7,8-TCDF: 0.2 U pg/L
2,3,4,7,8-PeCDF: 0.44 U pg/L
---SVOCs---
4-Methylphenol: 5 U µg/L
Phenanthrene: 5 U µg/L
Di-n-butylphthalate: 5 U µg/L
Benzo(a)pyrene: 5 U µg/L
---Total Metals---
Arsenic: 1.6 * µg/L
Cadmium: 1 U µg/L
Lead: 200 U µg/L
Manganese: 1 U µg/L
Zinc: 2 U µg/L
SSGW07
---Dioxins and Furans---
2,3,7,8-TCDD: 1.5 U pg/L
1,2,3,7,8-PeCDD: 1.7 U pg/L
1,2,3,6,7,8-HxCDD: 1.9 U pg/L
2,3,7,8-TCDF: 2.1 J pg/L
2,3,4,7,8-PeCDF: 0.89 U pg/L
---SVOCs---
4-Methylphenol: 5 U µg/L
Phenanthrene: 5 U µg/L
Di-n-butylphthalate: 1.2 J µg/L
Benzo(a)pyrene: 5 U µg/L
---Total Metals---
Arsenic: 40.2 * µg/L
Cadmium: 0.94 J- µg/L
Lead: 105 * µg/L
Manganese: 14,600 * µg/L
Zinc: 118 µg/L
SSGW02
---Dioxins and Furans---
2,3,7,8-TCDD: 0.33 U pg/L
1,2,3,7,8-PeCDD: 0.73 U pg/L
1,2,3,6,7,8-HxCDD: 0.36 U pg/L
2,3,7,8-TCDF: 0.3 U pg/L
2,3,4,7,8-PeCDF: 0.5 UJ pg/L
---SVOCs---
4-Methylphenol: 5 U µg/L
Phenanthrene: 5 U µg/L
Di-n-butylphthalate: 5 U µg/L
Benzo(a)pyrene: 5 U µg/L
---Total Metals---
Arsenic: 1 U µg/L
Cadmium: 1 U µg/L
Lead: 1 U µg/L
Manganese: 7.1 µg/L
Zinc: 57.6 µg/L
SSGW23
---Dioxins and Furans---
2,3,7,8-TCDD: 0.8 U pg/L
1,2,3,7,8-PeCDD: 0.64 U pg/L
1,2,3,6,7,8-HxCDD: 0.2 U pg/L
2,3,7,8-TCDF: 0.39 U pg/L
2,3,4,7,8-PeCDF: 0.25 UJ pg/L
---SVOCs---
4-Methylphenol: 5 U µg/L
Phenanthrene: 5 U µg/L
Di-n-butylphthalate: 5 U µg/L
Benzo(a)pyrene: 5 U µg/L
---Total Metals---
Arsenic: 1.2 * µg/L
Cadmium: 1 U µg/L
Lead: 1 U µg/L
Manganese: 8.3 µg/L
Zinc: 7.2 µg/L
SSGW16
---Dioxins and Furans---
2,3,7,8-TCDD: 0.61 U pg/L
1,2,3,7,8-PeCDD: 1.35 J * pg/L
1,2,3,6,7,8-HxCDD: 5.05 J pg/L
2,3,7,8-TCDF: 1.7 U pg/L
2,3,4,7,8-PeCDF: 0.61 UJ pg/L
---SVOCs---
4-Methylphenol: 5 U µg/L
Phenanthrene: 5 U µg/L
Di-n-butylphthalate: 5 U µg/L
Benzo(a)pyrene: 5 U µg/L
---Total Metals---
Arsenic: 48.4 * µg/L
Cadmium: 1 U µg/L
Lead: 1 U µg/L
Manganese: 3550 µg/L
Zinc: 7.3 µg/L
SSGW27
---Dioxins and Furans---
2,3,7,8-TCDD: 0.29 U pg/L
1,2,3,7,8-PeCDD: 0.43 U pg/L
1,2,3,6,7,8-HxCDD: 0.39 U pg/L
2,3,7,8-TCDF: 0.43 U pg/L
2,3,4,7,8-PeCDF: 0.2 U pg/L
---SVOCs---
4-Methylphenol: 5 U µg/L
Phenanthrene: 5 U µg/L
Di-n-butylphthalate: 5 U µg/L
Benzo(a)pyrene: 5 U µg/L
---Total Metals---
Arsenic: 2.2 * µg/L
Cadmium: 1 U µg/L
Lead: 1 U µg/L
Manganese: 1 U µg/L
Zinc: 18.6 µg/L
SSGW18
---Dioxins and Furans---
2,3,7,8-TCDD: 1.5 U pg/L
1,2,3,7,8-PeCDD: 1.4 U pg/L
1,2,3,6,7,8-HxCDD: 3.4 UJ pg/L
2,3,7,8-TCDF: 1.7 U pg/L
2,3,4,7,8-PeCDF: 0.65 UJ pg/L
---SVOCs---
4-Methylphenol: 5 U µg/L
Phenanthrene: 5 U µg/L
Di-n-butylphthalate: 5 U µg/L
Benzo(a)pyrene: 5 U µg/L
---Total Metals---
Arsenic: 41.7 * µg/L
Cadmium: 1 U µg/L
Lead: 1.9 µg/L
Manganese: 3430 µg/L
Zinc: 13.7 µg/L
SSGW89
---Dioxins and Furans---
2,3,7,8-TCDD: 1.6 U pg/L
1,2,3,7,8-PeCDD: 1.4 U pg/L
1,2,3,6,7,8-HxCDD: 3.5 UJ pg/L
2,3,7,8-TCDF: 2.1 U pg/L
2,3,4,7,8-PeCDF: 0.76 U pg/L
---SVOCs---
4-Methylphenol: 5 U µg/L
Phenanthrene: 5 U µg/L
Di-n-butylphthalate: 5 U µg/L
Benzo(a)pyrene: 5 U µg/L
---Total Metals---
Arsenic: 132 * µg/L
Cadmium: 0.88 J- µg/L
Lead: 29.7 µg/L
Manganese: 3180 µg/L
Zinc: 52.7 µg/L
SSGW14
---Dioxins and Furans---
2,3,7,8-TCDD: 0.48 U pg/L
1,2,3,7,8-PeCDD: 0.75 U pg/L
1,2,3,6,7,8-HxCDD: 1.9 J pg/L
2,3,7,8-TCDF: 0.8 J pg/L
2,3,4,7,8-PeCDF: 0.49 UJ pg/L
---SVOCs---
4-Methylphenol: 5 U µg/L
Phenanthrene: 5 U µg/L
Di-n-butylphthalate: 5 U µg/L
Benzo(a)pyrene: 5 U µg/L
---Total Metals---
Arsenic: 14.9 * µg/L
Cadmium: 1 U µg/L
Lead: 1 U µg/L
Manganese: 2820 µg/L
Zinc: 3 µg/L
SSGW10
---Dioxins and Furans---
2,3,7,8-TCDD: 1.4 U pg/L
1,2,3,7,8-PeCDD: 1.3 U pg/L
1,2,3,6,7,8-HxCDD: 3.2 UJ pg/L
2,3,7,8-TCDF: 1 U pg/L
2,3,4,7,8-PeCDF: 0.65 U pg/L
---SVOCs---
4-Methylphenol: 5 U µg/L
Phenanthrene: 5 U µg/L
Di-n-butylphthalate: 5 U µg/L
Benzo(a)pyrene: 5 U µg/L
---Total Metals---
Arsenic: 133 * µg/L
Cadmium: 0.79 J- µg/L
Lead: 30.6 * µg/L
Manganese: 3090 µg/L
Zinc: 52.2 µg/L
SSGW13
---Dioxins and Furans---
2,3,7,8-TCDD: 3.1 U pg/L
1,2,3,7,8-PeCDD: 0.67 U pg/L
1,2,3,6,7,8-HxCDD: 1.5 J pg/L
2,3,7,8-TCDF: 0.68 U pg/L
2,3,4,7,8-PeCDF: 0.48 U pg/L
---SVOCs---
4-Methylphenol: 5 U µg/L
Phenanthrene: 5 U µg/L
Di-n-butylphthalate: 5 U µg/L
Benzo(a)pyrene: 5 U µg/L
---Total Metals---
Arsenic: 35.9 * µg/L
Cadmium: 1 U µg/L
Lead: 1 U µg/L
Manganese: 1750 µg/L
Zinc: 12.8 µg/L
SSGW08
---Dioxins and Furans---
2,3,7,8-TCDD: 1.6 U pg/L
1,2,3,7,8-PeCDD: 2.3 UJ pg/L
1,2,3,6,7,8-HxCDD: 1.9 U pg/L
2,3,7,8-TCDF: 2.6 J pg/L
2,3,4,7,8-PeCDF: 1.3 UJ pg/L
---SVOCs---
4-Methylphenol: 5 U µg/L
Phenanthrene: 5 U µg/L
Di-n-butylphthalate: 1 J µg/L
Benzo(a)pyrene: 5 U µg/L
---Total Metals---
Arsenic: 99.5 * µg/L
Cadmium: 0.39 J- µg/L
Lead: 2.5 µg/L
Manganese: 4750 µg/L
Zinc: 9.8 µg/L
Hog Fuel Area
#6 Fuel Oil AST
Woodchip Staging Area
NW Energy Sub-Station
Effluent Clarifier
Color Removal Plant
O'Keefe Creek
Landfarm
Direction of Flow
Sludge 17
Sludge 3
Landfill A
Sludge 4
Sludge 5
Polishing Pond (South)
Landfill F
Landfill C
Log Yard Basin
Polishing Pond (North) 15
Wastewater Aeration I
Wastewater Aeration II
Wastewater Aeration III 14
Landfill 20
Landfill 19 (D)
Landfill C
Landfill 6
Emergency Spill 8
Dry Cell 8
1
1A
16
18
13
12
10
9
7
11
13A
Wastewater Storage Pond 2
Production Well Field
Non-Contact Cooling Water Ditch
Outfall #1
Outfall #2
Outfall #3
Outfall #4
Clark Fork
Direction of Flow
Feet
0
1,250
2,500
3,750
5,000
Miles
0
0.25
0.5
1
1.5
BOLD
Analytical Result > 3 x background value = observed contamination
*
Concentration > benchmark
Sample Locations
Classification
Groundwater Samples
Source Area
Mill Site Boundary
ø = 272°
Numbered Ponds and Landfills
Site Features
Landfills
Treated Wastewater Storage Ponds
Aerated Stabilization Basins Treatment Ponds
Polishing Ponds
Sludge Ponds
Emergency Spill Pond
TDD Title: Smurfit-Stone Mill RA
Figure: 6
Figure Title: Selected Analytical Results for Groundwater Locations
TDD County: MISSOULA
TDD State: MT
TDD:1105-09
Date:08/2012
Base Data Source: Bing Maps 2011
Projection System: NAD 1983 UTM Zone 11N
1 inch = 1,060 feet
Page Size: ANSI C
URS OPERATING SERVICES
Author: Alex Mahrou Date/Time: Tuesday, August 14, 2012 10:43:55 AM File: T:\START3\Smurfit Stone Mill RA\GIS10\Maps\Figure_6_Analytical_GW.mxd

TABLE 8
Sample Locations and Rationale
(changes from FSP noted in bold and shading)

Matrix	Sample #	Location	Rationale
Soil/Source	SSSO0102	Surface soil grab sample from mill property to the north (upwind) of potential source areas.	Determine background surface soil conditions on site.
	SSSO0202	Surface soil/source grab sample from landfarm area (most contaminated location).	Characterize on-site sources and contamination.
	SSSO0302	Surface soil/source grab sample from landfarm area.	Characterize on-site sources and contamination.
	SSSO0402	Surface soil/source grab sample from landfarm area.	Characterize on-site sources and contamination.
	SSSO0502	Surface soil/source grab sample from sludge pond 17.	Characterize on-site sources and contamination.
	SSSO0514	Subsurface soil/source grab sample from sludge pond 17.	Characterize on-site sources and contamination.
	SSSO0602	Surface soil/source grab sample from sludge pond 17.	Characterize on-site sources and contamination.
	SSSO0612	Subsurface soil/source grab sample from sludge pond 17.	Characterize on-site sources and contamination.
	SSSO0702	Surface soil/source grab sample from sludge pond 3.	Characterize on-site sources and contamination.
	SSSO0716	Subsurface soil/source grab sample from sludge pond 3.	Characterize potential on-site sources and contamination.
	SSSO0802	Surface soil/source grab sample from sludge pond 3.	Characterize potential on-site sources and contamination.
	SSSO0816	Subsurface soil/source grab sample from sludge pond 3.	Characterize potential on-site sources and contamination.
	SSSO0902	Surface soil/source grab sample from sludge pond 5.	Characterize potential on-site sources and contamination.
	SSSO0916	Subsurface soil/source grab sample from sludge pond 5.	Characterize potential on-site sources and contamination.
	SSSO1002	Surface soil/source grab sample from sludge pond 5.	Characterize potential on-site sources and contamination.

TABLE 8
Sample Locations and Rationale
(changes from FSP noted in bold and shading)

Matrix	Sample #	Location	Rationale
Soil/Source (cont.)	SSSO10xx	Subsurface soil/source grab sample from sludge pond 5. **[not collected due to lack of safe access]**	Characterize potential on-site sources and contamination.
	SSSO1102	Surface soil/source grab sample from sludge pond 4.	Characterize potential on-site sources and contamination.
	SSSO1110	Subsurface soil/source grab sample from sludge pond 4.	Characterize potential on-site sources and contamination.
	SSSO1202	Surface soil/source grab sample from sludge pond 4.	Characterize potential on-site sources and contamination.
	SSSO12xx	Subsurface soil/source grab sample from sludge pond 4. **[not collected due to lack of safe access]**	Characterize potential on-site sources and contamination.
	SSSO1302	Surface soil/source grab sample from emergency spill pond (8) dry cell.	Characterize potential on-site sources and contamination.
	SSSO1306	Subsurface soil/source grab sample from emergency spill pond (8) dry cell.	Characterize potential on-site sources and contamination.
	SSSO1402	Surface soil/source grab sample from emergency spill pond (8) wet cell.	Characterize potential on-site sources and contamination.
	SSSO14xx	Subsurface soil/source grab sample from emergency spill pond (8) wet cell. **[not collected due to lack of safe access]**	Characterize potential on-site sources and contamination.
	SSSO1502	Surface soil/source grab sample from pond 2.	Characterize potential on-site sources and contamination.
	SSSO1602	Surface soil/source grab sample from pond 2.	Characterize potential on-site sources and contamination.
	SSSO1702	Surface soil/source grab sample from area of what appeared to be exposed soil/sludge adjacent to landfill A.	Characterize potential on-site sources and contamination.
Surface Water and Sediment	SSSW/SE01	Grab sample collected from O'Keefe Creek immediately upstream of the PPE from the landfarm area.	Document background conditions along O'Keefe Creek.

TABLE 8
Sample Locations and Rationale
(changes from FSP noted in bold and shading)

Matrix	Sample #	Location	Rationale
Surface Water and Sediment (Cont)	SSSW/SE02	Grab sample collected from O'Keefe Creek immediately downstream of the PPE from the landfarm area.	Document potential site impacts to the surface water pathway along O'Keefe Creek downstream of the landfarm area.
	SSSW/SE03	Grab sample collected from O'Keefe Creek immediately downstream of sludge pond 17.	Document potential site impacts to the surface water pathway along O'Keefe Creek downstream of sludge pond 17.
	SSSW/SE04	Grab sample collected from the Clark Fork River immediately upstream of potential source areas of the mill.	Document background conditions along the Clark Fork River.
	SSSW/SE05	Grab sample collected from the Clark Fork River adjacent to pond 2.	Document potential site impacts to the surface water pathway along the Clark Fork River.
	SSSW/SE06	Grab sample collected from the Clark Fork River immediately downstream of outfall 1.	Document potential site impacts to the surface water pathway along the Clark Fork River downstream of outfall 1.
	SSSW/SE07	Grab sample collected from the Clark Fork River immediately downstream of outfall 2.	Document potential site impacts to the surface water pathway along the Clark Fork River downstream of outfall 2.
	SSSW/SE08	Grab sample collected from Clark Fork River adjacent to pond 13.	Document potential site impacts to the surface water pathway along the Clark Fork River.
	SSSW/SE09	Grab sample collected from the Clark Fork River immediately downstream of outfall 3.	Document potential site impacts to the surface water pathway along the Clark Fork River downstream of outfall 3.
	SSSW/SE10	Grab sample collected from the Clark Fork River immediately downstream of outfall 4.	Document potential site impacts to the surface water pathway along the Clark Fork River downstream of outfall 4.
Groundwater	SSGW01	Shallow aquifer groundwater grab sample collected from existing monitoring well located upgradient of mill (e.g., SMW-20).	Determine background conditions of groundwater in shallow aquifer.
	SSGW02	Deeper aquifer groundwater grab sample collected from existing production well located upgradient of mill (production deep well #11).	Determine background conditions of groundwater in deeper aquifer.

TABLE 8
Sample Locations and Rationale
(changes from FSP noted in bold and shading)

Matrix	Sample #	Location	Rationale
Groundwater (cont.)	SSGW03	Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of sludge pond 17.	Document potential site impacts on shallow groundwater aquifer.
	SSGW04	Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of sludge pond 3.	Document potential site impacts on shallow groundwater aquifer.
	SSGW05	Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of landfill A.	Document potential site impacts on shallow groundwater aquifer.
	SSGW06	Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of sludge pond 4. **[not collected due to lack of safe access]**	Document potential site impacts on shallow groundwater aquifer.
	SSGW07	Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of sludge pond 5.	Document potential site impacts on shallow groundwater aquifer.
	SSGW08	Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of landfill 6.	Document potential site impacts on shallow groundwater aquifer.
	SSGW09	Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of emergency spill pond 8. **[not collected due to lack of safe access]**	Document potential site impacts on shallow groundwater aquifer.
	SSGW10	Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of pond 20 (landfill E).	Document potential site impacts on shallow groundwater aquifer.
	SSGW11	Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located downgradient of aeration basins.	Document potential site impacts on shallow groundwater aquifer.

TABLE 8
Sample Locations and Rationale
(changes from FSP noted in bold and shading)

Matrix	Sample #	Location	Rationale
Groundwater (cont.)	SSGW12	Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of landfill G.	Document potential site impacts on shallow groundwater aquifer.
	SSGW13	Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-14 (adjacent to Clark Fork River).	Document potential site impacts on shallow groundwater aquifer.
	SSGW14	Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-13 (adjacent to Clark Fork River).	Document potential site impacts on shallow groundwater aquifer.
	SSGW15	Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-17 (downgradient of most potential sources).	Document potential site impacts on shallow groundwater aquifer.
	SSGW16	Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-11 (adjacent to Clark Fork River).	Document potential site impacts on shallow groundwater aquifer.
	SSGW17	Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-19 (downgradient of most potential sources).	Document potential site impacts on shallow groundwater aquifer.
	SSGW18	Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-10 (adjacent to Clark Fork River).	Document potential site impacts on shallow groundwater aquifer.
	SSGW19	Deeper aquifer groundwater grab sample collected from existing domestic well located within landfarm area. **[well did not exist at presumed location]**	Document potential site impacts on deeper groundwater aquifer.
	SSGW20	Deeper aquifer groundwater grab sample collected from existing domestic well located adjacent to pond 18. **[owner was not home to enable access]**	Document potential site impacts on deeper groundwater aquifer.

TABLE 8
Sample Locations and Rationale
(changes from FSP noted in bold and shading)

Matrix	Sample #	Location	Rationale
Groundwater (cont.)	SSGW21	Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill. **[well did not exist at presumed location]**	Document potential site impacts on deeper groundwater aquifer.
	SSGW22	Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill. **[well did not exist at presumed location]**	Document potential site impacts on deeper groundwater aquifer.
	SSGW23	Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (15762 Marcure Lane).	Document potential site impacts on deeper groundwater aquifer.
	SSGW24	Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (15700 Marcure Lane).	Document potential site impacts on deeper groundwater aquifer.
	SSGW25	Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (15740 Marcure Lane).	Document potential site impacts on deeper groundwater aquifer.
	SSGW26	Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (15400 Marcure Lane).	Document potential site impacts on deeper groundwater aquifer.
	SSGW27	Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (Clark Fork Cattle Ranch well).	Document potential site impacts on deeper groundwater aquifer.
QA/QC (water)	SSGW89	Duplicate of sample SSGW10. (M S/MSD was also collected here. 3 x volume for water)	Document the precision of sample collection procedures and laboratory analysis.
	SSGW99	Duplicate of sample SSGW26.	Document the precision of sample collection procedures and laboratory analysis.

TABLE 8
Sample Locations and Rationale
(changes from FSP noted in bold and shading)

Matrix	Sample #	Location	Rationale
QA/QC (soil/sludge/sediment)	SSSO89	Replicate of SSSO1402. MS/MSD was also collected here (2 x volume for sludge).	Document the precision of sample collection procedures and laboratory analysis.
	SSSO99	Replicate of SSSO1302. MS/MSD was also collected here (2 x volume for sludge).	Document the precision of sample collection procedures and laboratory analysis.
QA/QC (blanks)	SSSW89	Rinsate blank.	Document thoroughness of decontamination procedures.
	SSSW99A, B	Trip blanks.	Document cross-contamination of VOC samples.

The deviations in sampling location from the FSP are highlighted with shading.

TABLE 9
PCB Results in Sources/Surface Soils
Units µg/kg (ppb)

Field Sample ID: Laboratory Sample ID: Location: Analytes	Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration (RDSC)	Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration (CRSC)	SSSO0102 H30Q0 BACKGROUND Surface soil grab sample from mill property to the north (upwind) of potential source areas	SSSO0202 H30Q1 Surface soil/source grab sample from landfarm area	SSSO0302 H30Q2 Surface soil/source grab sample from landfarm area	SSSO0402 H30Q3 Surface soil/source grab sample from landfarm area	SSSO0502 H30Q4 Surface soil/source grab sample from sludge pond 17	SSSO0602 H30Q6 Surface soil/source grab sample from sludge pond 17	SSSO0702 H30Q8 Surface soil/source grab sample from sludge pond 3	SSSO0802 H30R0 Surface soil/source grab sample from sludge pond 3	SSSO0902 H30R2 Surface soil/source grab sample from sludge pond 5	SSSO1002 H30R4 Surface soil/source grab sample from Sludge Pond 5
Aroclor-1016	-	-	*38 U*	43 U	39 U	41 U	39 UJ	63 UJ	110 UJ	120 UJ	47 U	160 UJ
Aroclor-1221	-	-	*38 U*	43 U	39 U	41 U	39 UJ	63 UJ	110 UJ	120 UJ	47 U	160 UJ
Aroclor-1232	-	-	*38 U*	43 U	39 U	41 U	39 UJ	63 UJ	110 UJ	120 UJ	47 U	160 UJ
Aroclor-1242	-	-	*38 U*	43 U	39 U	41 U	39 UJ	63 UJ	110 UJ	120 UJ	47 U	160 UJ
Aroclor-1248	-	-	*38 U*	43 U	39 U	41 U	39 UJ	63 UJ	110 UJ	120 UJ	47 U	160 UJ
Aroclor-1254	-	-	*38 U*	43 U	39 U	41 U	39 UJ	63 UJ	110 UJ	120 UJ	47 U	160 UJ
Aroclor-1260	-	-	*38 U*	43 U	39 U	41 U	39 UJ	63 UJ	110 UJ	120 UJ	47 U	160 UJ
Aroclor-1262	-	-	*38 U*	43 U	39 U	41 U	39 UJ	63 UJ	110 UJ	120 UJ	47 U	160 UJ
Aroclor-1268	-	-	*38 U*	43 U	39 U	41 U	39 UJ	63 UJ	110 UJ	120 UJ	47 U	160 UJ

J The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.
U The analyte was not detected above the CRQL.
UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.
RDSC Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration
CRSC Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration
mg/Kg milligrams per kilogram
ppb parts per billion
X.X Analytical Result > 3 x background value = observed contamination
☆ Concentration is > benchmark
Italic Background sample
Sources: EPA 2011 (CLP limits); EPA 2011 (SCDM)

TABLE 9, continued
PCBs in Sources/Surface Soils
Units µg/kg (ppb)

Field Sample ID: Laboratory Sample ID: Location: Analytes	Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration (RDSC)	Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration (CRSC)	SSSO1102 H30R6 Surface soil/source grab sample from sludge pond 4	SSSO1202 H30R8 Surface soil/source grab sample from sludge pond 4	SSSO1302 H30S0 Surface soil/source grab sample from emergency spill pond (8) dry cell	SSSO9902 H30T8 Replicate of SSSO1302 MS/MSD was collected here (2 x volume for sludge)	Relative Percentage Difference (RPD)	SSSO1402 H30S2 Surface soil/source grab sample from emergency spill pond (8) wet cell	SSSO8902 H30S6 Replicate of SSSO1402 MS/MSD was collected here (2 x volume for sludge)	Relative Percentage Difference (RPD)	SSSO1502 H30S4 Surface soil/source grab sample from wastewater storage pond 2	SSSO1602 H30S5 Surface soil/source grab sample from wastewater storage pond 2	SSSO1702 H30S3 Surface soil/source grab sample from area of what appeared to be exposed soil/sludge adjacent to landfill A
Aroclor-1016	-	-	98 U	94 U	59 U	57 U	-	120 UJ	130 UJ	-	53 U	38 U	47 U
Aroclor-1221	-	-	98 U	94 U	59 U	57 U	-	120 UJ	130 UJ	-	53 U	38 U	47 U
Aroclor-1232	-	-	98 U	94 U	59 U	57 U	-	120 UJ	130 UJ	-	53 U	38 U	47 U
Aroclor-1242	-	-	98 U	94 U	59 U	57 U	-	120 UJ	130 UJ	-	53 U	38 U	47 U
Aroclor-1248	-	-	45 J	87 J	59 U	59 J	-	120 UJ	130 UJ	-	53 U	38 U	59 J
Aroclor-1254	-	-	80 J	150 J (15)	110 J (11)	80 J	16	530 J (53)	200 J (20)	45	53 U	38 U	71
Aroclor-1260	-	-	98 U	94 U	59 U	100	-	120 UJ	350 J	-	53 U	38 U	47 U
Aroclor-1262	-	-	98 U	94 U	59 U	57 U	-	120 UJ	130 UJ	-	53 U	38 U	47 U
Aroclor-1268	-	-	98 U	94 U	59 U	57 U	-	120 UJ	130 UJ	-	53 U	38 U	47 U

J The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.
U The analyte was not detected above the CRQL.
UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.
RDSC Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration
CRSC Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration
mg/Kg milligrams per kilogram
ppb parts per billion
X.X Analytical Result > 3 x background value = observed contamination
☆ Concentration is > benchmark
Italic Background sample
(23.4) Adjusted value- estimated results have been adjusted per HRS guidelines and are to be used for comparison to background values.
Sources: EPA 2011 (CLP limits); EPA 2011 (SCDM)

TABLE 10
Dioxins and Furans in Sources/Surface Soils
Units of pg/g (ppt)

Field Sample ID: Laboratory Sample ID: Location: Analytes	Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration (RDSC)	Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration (CRSC)	SSSO0102 L1080162-1 BACKGROUND Surface soil grab sample from mill property to the north (upwind) of potential source areas	WHO TEF Concentration	SSSO0202 L1080162-2 Surface soil/source grab sample from landfarm area	WHO TEF Concentration	SSSO0302 L1080162-3 Surface soil/source grab sample from landfarm area	WHO TEF Concentration	SSSO0402 L1080162-4 Surface soil/source grab sample from landfarm area	WHO TEF Concentration	SSSO0502 L1080162-5 Surface soil/source grab sample from sludge pond 17	WHO TEF Concentration
2,3,7,8-TCDD	-	4.3	*0.04 J*	0.04000 J	0.03 U	0.01850 U	0.05 U	0.02950 U	0.07 J	0.07000 J	4.72 ☆	4.72000
1,2,3,7,8-PeCDD	-	8.5	*0.38 J*	0.38000 J	0.08 J	0.08000 J	0.1 J	0.10000 J	0.09 J	0.09000 J	13.4 ☆	13.40000
1,2,3,4,7,8-HxCDD	-	110	*0.69 J*	0.06900 J	0.07 J	0.00700 J	0.08 J	0.00800 J	0.11 J	0.01100 J	8.6	0.86000
1,2,3,6,7,8-HxCDD	-	110	*1.54*	0.15400	0.15 J	0.01500 J	0.12 J	0.01200 J	0.22 J	0.02200 J	11.4	1.14000
1,2,3,7,8,9-HxCDD	-	100	*1.67*	0.16700	0.21 J	0.02100 J	0.16 J	0.01600 J	0.31 J	0.03100 J	10.8	1.08000
1,2,3,4,6,7,8-HpCDD	-	4300	*40.6*	0.40600	3.46	0.03460	2.85	0.02850	4.24	0.04240	48.5	0.48500
OCDD	-	-	*310*	0.09300	25.9	0.00777	18.7	0.00561	59.5	0.01785	85.3	0.02559
Total-TCDD	-	-	*0.17*	-	1.24	-	0.88	-	0.56	-	278	-
Total TCDD # Homologues	-	-	*2*	-	3	-	4	-	2	-	15	-
Total-PeCDD	-	-	*1.34*	-	0.07 U	-	0.3	-	0.09	-	208	-
Total PeCDD # Homologues	-	-	*4*	-	0	-	2	-	1	-	9	-
Total-HxCDD	-	-	*7.94*	-	0.51	-	0.87	-	1.21	-	169	-
Total HxCDD # Homologues	-	-	*3*	-	1	-	2	-	3	-	7	-
Total-HpCDD	-	-	*72.1*	-	6.56	-	5.05	-	8.78	-	83.4	-
Total HpCDD # Homologues	-	-	*2*	-	2	-	2	-	2	-	2	-
2,3,7,8-TCDF	-	43	*1.3 EMPC*	0.13000 EMPC	0.05 U	0.00255 U	0.1 U	0.00500 U	0.19 U	0.00950 U	34.4	3.44000
1,2,3,7,8-PeCDF	-	-	*0.68*	0.02040	0.04 J	0.00120 J	0.16 J	0.00480 J	0.1 J	0.00300 J	19	0.57000
2,3,4,7,8-PeCDF	-	43	*0.82*	0.24600	0.07 J	0.02100 J	0.09 J	0.02700 J	0.09 J	0.02700 J	29.7	8.91000
1,2,3,4,7,8-HxCDF	-	430	*1.5*	0.15000	0.06 UJ	0.00190 UJ	0.07 UJ	0.00105 UJ	0.14 UJ	0.00105 UJ	9.94	0.99400
1,2,3,6,7,8-HxCDF	-	430	*0.68*	0.06800	0.04 UJ	0.00400 UJ	0.07 U	0.00105 U	0.07 UJ	0.00105 UJ	12.7	1.27000
1,2,3,7,8,9-HxCDF	-	430	*0.31 J*	0.03100 J	0.03 UJ	0.00085 UJ	0.03 UJ	0.00115 UJ	0.1 U	0.00125 U	5.49	0.54900
2,3,4,6,7,8-HxCDF	-	430	*0.83*	0.08300	0.06 U	0.00075 U	0.05 UJ	0.00105 UJ	0.11 UJ	0.00105 UJ	15.7	1.57000
1,2,3,4,6,7,8-HpCDF	-	4300	*10.9*	0.10900	0.63 J	0.00630 J	0.57 J	0.00570 J	2.14	0.02140	12.5	0.12500
1,2,3,4,7,8,9-HpCDF	-	4300	*0.95*	0.00950	0.03 UJ	0.00016 UJ	0.04 U	0.00020 U	0.11 UJ	0.00050 UJ	4.72	0.04720
OCDF	-	-	*26.7*	0.00801	1.89	0.00057	2.28	0.00068	21.4	0.00642	5.31	0.00159
Total-TCDF	-	-	*30.5*	-	3.49	-	1.12	-	2.49	-	647	-
Total TCDF # Homologues	-	-	*21*	-	2	-	2	-	5	-	21	-
Total-PeCDF	-	-	*18.1*	-	0.3	-	0.43	-	1.04	-	274	-
Total PeCDF # Homologues	-	-	*14*	-	4	-	3	-	8	-	15	-
Total-HxCDF	-	-	*16.4*	-	0.2 U	-	0.6	-	1.21	-	124	-
Total HxCDF # Homologues	-	-	*8*	-	2	-	3	-	4	-	13	-
Total-HpCDF	-	-	*29.9*	-	0.03 U	-	0.74	-	4.64	-	32.2	-

TABLE 10
Dioxins and Furans in Sources/Surface Soils
Units of pg/g (ppt)

Field Sample ID: Laboratory Sample ID: Location: Analytes	Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration (RDSC)	Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration (CRSC)	SSSO0102 L1080162-1 BACKGROUND Surface soil grab sample from mill property to the north (upwind) of potential source areas	WHO TEF Concentration	SSSO0202 L1080162-2 Surface soil/source grab sample from landfarm area	WHO TEF Concentration	SSSO0302 L1080162-3 Surface soil/source grab sample from landfarm area	WHO TEF Concentration	SSSO0402 L1080162-4 Surface soil/source grab sample from landfarm area	WHO TEF Concentration	SSSO0502 L1080162-5 Surface soil/source grab sample from sludge pond 17	WHO TEF Concentration
Total HpCDF # Homologues	-	-	*3*	-	0	-	1	-	2	-	4	-
WHO TEQ	-	-	-	2.16391	-	0.22314	-	0.24729	-	0.35647	-	39.18738

J The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.
U The analyte was not detected above the CRQL.
UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.
RDSC Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration
CRSC Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration
pg/g picograms per gram
ppt parts per trillion
☆ Concentration is > benchmark
Italic Background sample
X.X Analytical Result > 3 x background value = observed contamination
EMPC Indicates the presence of a partially coeluting interference that broadens the peak. The result is an estimated maximum possible concentration.
WHO TEQ World Health Organization Toxicity Equivalent
WHO TEF Conc. World Health Organization Toxicity Equivalence Factor Concentration
Sources: EPA 2011 (CLP limits); EPA 2011 (SCDM)

TABLE 10, continued
Dioxins and Furans in Sources/Surface Soils
Units of pg/g (ppt)

Field Sample ID: Laboratory Sample ID: Location: Analytes	Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration (RDSC)	Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration (CRSC)	SSSO0602 L1080162-6 Surface soil/source grab sample from sludge pond 17	WHO TEF Concentration	SSSO0702 L1080162-7 Surface soil/source grab sample from sludge pond 3	WHO TEF Concentration	SSSO0802 L1080162-9 Surface soil/source grab sample from sludge pond 3	WHO TEF Concentration	SSSO0902 L1081891-23 Surface soil/source grab sample from sludge pond 5	WHO TEF Concentration	SSSO1002 L1081891-25 Surface soil/source grab sample from sludge pond 5	WHO TEF Concentration
2,3,7,8-TCDD	-	4.3	22.4 ☆	22.40000	34.3 ☆	34.30000	1.8 J	1.80000 J	0.06 U	0.03100 U	0.46 U	0.23000 U
1,2,3,7,8-PeCDD	-	8.5	73.4 ☆	73.40000	92.7 ☆	92.70000	5.51	5.51000	0.28 J	0.28000 J	1.9 U	0.95000 U
1,2,3,4,7,8-HxCDD	-	110	46.9	4.69000	58.8	5.88000	0.62 U	0.03100 U	0.16 U	0.00800 U	1.1 U	0.05500 U
1,2,3,6,7,8-HxCDD	-	110	67.7	6.77000	78.1	7.81000	95.5	9.55000	0.76	0.07600	1.5 U	0.07500 U
1,2,3,7,8,9-HxCDD	-	100	59.9	5.99000	69.4	6.94000	41.9	4.19000	0.46 J	0.04600 J	1.3 U	0.06500 U
1,2,3,4,6,7,8-HpCDD	-	4300	311	3.11000	299	2.99000	54.4	0.54400	9.61	0.09610	31.4	0.31400
OCDD	-	-	687	0.20610	341	0.10230	279	0.08370	62.6	0.01878	321	0.09630
Total-TCDD	-	-	2320	-	1450	-	39.4	-	2.17	-	0.54	-
Total TCDD # Homologues	-	-	16	-	15	-	10	-	4	-	1	-
Total-PeCDD	-	-	1570	-	1180	-	26	-	1.88	-	1.9 U	-
Total PeCDD # Homologues	-	-	9	-	9	-	5	-	5	-	0	-
Total-HxCDD	-	-	1130	-	915	-	556	-	5.67	-	5.3	-
Total HxCDD # Homologues	-	-	6	-	7	-	4	-	5	-	1	-
Total-HpCDD	-	-	541	-	514	-	103	-	18	-	59.3	-
Total HpCDD # Homologues	-	-	2	-	2	-	2	-	2	-	2	-
2,3,7,8-TCDF	-	43	164 ☆	16.40000	317 ☆	31.70000	19.7	1.97000	0.99	0.09900	3.25	0.32500
1,2,3,7,8-PeCDF	-	-	88.8	2.66400	156	4.68000	4.62	0.13860	0.29 J	0.00870 J	1.1 J	0.03300 J
2,3,4,7,8-PeCDF	-	43	148 ☆	44.40000	237 ☆	71.10000	6.25	1.87500	0.54 J	0.16200 J	2.05 J	0.61500 J
1,2,3,4,7,8-HxCDF	-	430	45.8	4.58000	76.2	7.62000	1.3 J	0.13000 J	0.37 J	0.03700 J	1.5 J	0.15000 J
1,2,3,6,7,8-HxCDF	-	430	58.4	5.84000	95.2	9.52000	1.97	0.19700	0.28 J	0.02800 J	0.82 J	0.08200 J
1,2,3,7,8,9-HxCDF	-	430	25.5	2.55000	44.4	4.44000	0.64 J	0.06400 J	0.13 U	0.00800 U	0.9 U	0.04500 U
2,3,4,6,7,8-HxCDF	-	430	72.7	7.27000	122	12.20000	1.9 J	0.19000 J	0.36 UJ	0.00430 UJ	1.4 UJ	0.03700 UJ
1,2,3,4,6,7,8-HpCDF	-	4300	60	0.60000	95.9	0.95900	2.85	0.02850	0.7 J	0.00700 J	8.4	0.08400 J
1,2,3,4,7,8,9-HpCDF	-	4300	20.2	0.20200	35.9	0.35900	0.68 U	0.00340 U	0.27 U	0.00135 U	1.3 U	0.00650 U
OCDF	-	-	24.7	0.00741	40.2	0.01206	4.31	0.00129	0.99 UJ	0.00006 UJ	24.7	0.00741
Total-TCDF	-	-	3210	-	5840	-	233	-	7.87	-	43.5	-
Total TCDF # Homologues	-	-	22	-	22	-	19	-	11	-	13	-
Total-PeCDF	-	-	1370	-	2360	-	63.2	-	4.13	-	20.7 J	-
Total PeCDF # Homologues	-	-	15	-	16	-	13	-	7	-	10	-
Total-HxCDF	-	-	592	-	1020	-	12	-	0.67	-	5.15	-
Total HxCDF # Homologues	-	-	13	-	13	-	5	-	3	-	3	-
Total-HpCDF	-	-	150	-	254	-	6.29	-	0.27 U	-	16.5	-

TABLE 10, continued
Dioxins and Furans in Sources/Surface Soils
Units of pg/g (ppt)

Field Sample ID: Laboratory Sample ID: Location: Analytes	Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration (RDSC)	Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration (CRSC)	SSSO0602 L1080162-6 Surface soil/source grab sample from sludge pond 17	WHO TEF Concentration	SSSO0702 L1080162-7 Surface soil/source grab sample from sludge pond 3	WHO TEF Concentration	SSSO0802 L1080162-9 Surface soil/source grab sample from sludge pond 3	WHO TEF Concentration	SSSO0902 L1081891-23 Surface soil/source grab sample from sludge pond 5	WHO TEF Concentration	SSSO1002 L1081891-25 Surface soil/source grab sample from sludge pond 5	WHO TEF Concentration
Total HpCDF # Homologues	-	-	4	-	4	-	2	-	0	-	2	-
WHO TEQ	-	-	-	201.07951	-	293.31236	-	26.30649	-	0.91129	-	3.17021

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U The analyte was not detected above the CRQL.
UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.
RDSC Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration
CRSC Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration
pg/g picograms per gram
ppt parts per trillion
☆ Concentration is > benchmark
Italic Background sample
X.X Analytical Result > 3 x background value = observed contamination
EMPC Indicates the presence of a partially coeluting interference that broadens the peak. The result is an estimated maximum possible concentration.
WHO TEQ World Health Organization Toxicity Equivalent
WHO TEF Conc. World Health Organization Toxicity Equivalence Factor Concentration
Sources: EPA 2011 (CLP limits); EPA 2011 (SCDM)

TABLE 10, continued
Dioxins and Furans in Sources/Surface Soils
Units of pg/g (ppt)

Field Sample ID: Laboratory Sample ID: Location: Analytes	Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration (RDSC)	Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration (CRSC)	SSSO1102 L1081891-26 Surface soil/source grab sample from sludge pond 4	WHO TEF Concentration	SSSO1202 L1081891-38 Surface soil/source grab sample from sludge pond 4	WHO TEF Concentration	SSSO1302 L1081891-28 Surface soil/source grab sample from emergency spill pond 8 dry cell	WHO TEF Concentration	SSSO9902 L1081891-37 Replicate of SSSO1302 MS/MSD was collected here (2 x volume for sludge)	WHO TEF Concentration	Relative Percentage Difference (RPD)
2,3,7,8-TCDD	-	4.3	1.5	1.50000	1.21	1.21000	1.22	1.22000	1.4 J	1.40000 J	7
1,2,3,7,8-PeCDD	-	8.5	1.18 J	1.18000 J	0.94 U	0.47000 U	1 J	1.00000 J	1.12	1.12000	6
1,2,3,4,7,8-HxCDD	-	110	1.2 U	0.06000 U	1.1 U	0.05500 U	1.1 U	0.05500 U	0.71 J	0.07100 J	-
1,2,3,6,7,8-HxCDD	-	110	5.6	0.56000	3.2	0.32000	4.2	0.42000	6.05	0.60500	18
1,2,3,7,8,9-HxCDD	-	100	2.9	0.29000	1.6 J	0.16000 J	1.9	0.19000	2.98	0.29800	22
1,2,3,4,6,7,8-HpCDD	-	4300	58.0	0.58000	52.9	0.52900	72.7	0.72700	92.8	0.92800	12
OCDD	-	-	416	0.12480	555	0.16650	678	0.20340	810	0.24300	9
Total-TCDD	-	-	3.87	-	4.59	-	6.84	-	8.12	-	9
Total TCDD # Homologues	-	-	2	-	3	-	4	-	5	-	11
Total-PeCDD	-	-	3.61	-	2.7	-	7.67	-	9.57	-	11
Total PeCDD # Homologues	-	-	3	-	2	-	5	-	6	-	9
Total-HxCDD	-	-	29.5	-	3.2	-	6.1	-	32.8	-	69
Total HxCDD # Homologues	-	-	3	-	1	-	2	-	5	-	43
Total-HpCDD	-	-	104	-	102	-	139	-	171	-	10
Total HpCDD # Homologues	-	-	2	-	2	-	2	-	2	-	0
2,3,7,8-TCDF	-	43	9.51	0.95100	3.91	0.39100	5.58	0.55800	5.67	0.56700	1
1,2,3,7,8-PeCDF	-	-	0.97 J	0.02910 J	0.84 J	0.02520 J	1.4 J	0.04200 J	1.43	0.04290	1
2,3,4,7,8-PeCDF	-	43	1.69	0.50700	1.33 J	0.39900 J	2.18	0.65400	0.94	0.28200	40
1,2,3,4,7,8-HxCDF	-	430	1.1 J	0.11000 J	0.78 U	0.03900 U	0.89 J	0.08900 J	1.52	0.15200	26
1,2,3,6,7,8-HxCDF	-	430	1.1 J	0.11000 J	0.75 U	0.03750 U	0.9 U	0.04500 U	1.07	0.10700	-
1,2,3,7,8,9-HxCDF	-	430	0.97 U	0.04850 U	0.92 U	0.04600 U	1.1 U	0.05500 U	0.54 U	0.02700 U	-
2,3,4,6,7,8-HxCDF	-	430	1.06 U	0.03600 U	0.76 U	0.03800 U	1.15	0.11500	1.1 J	0.11000 J	2
1,2,3,4,6,7,8-HpCDF	-	4300	5.6	0.05600	5.23	0.05230	6.80	0.06800	6.83	0.06830	0
1,2,3,4,7,8,9-HpCDF	-	4300	1.6 U	0.00800 U	1.4 U	0.00700 U	1.6	0.01600	0.71 J	0.00710 J	39
OCDF	-	-	13	0.00390	18.5	0.00555	21	0.00630	17.8	0.00534	8
Total-TCDF	-	-	46.9	-	21.6	-	73.9	-	65	-	6
Total TCDF # Homologues	-	-	12	-	9	-	18	-	16	-	6
Total-PeCDF	-	-	16.2	-	11.2	-	24.8	-	23.3	-	3
Total PeCDF # Homologues	-	-	10	-	7	-	10	-	11	-	5
Total-HxCDF	-	-	6.75	-	2.37	-	10.5	-	13	-	11
Total HxCDF # Homologues	-	-	3	-	1	-	6	-	7	-	8
Total-HpCDF	-	-	5.6	-	14.4	-	19.8	-	18	-	5

TABLE 10, continued
Dioxins and Furans in Sources/Surface Soils
Units of pg/g (ppt)

Field Sample ID: Laboratory Sample ID: Location: Analytes	Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration (RDSC)	Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration (CRSC)	SSSO1102 L1081891-26 Surface soil/source grab sample from sludge pond 4	WHO TEF Concentration	SSSO1202 L1081891-38 Surface soil/source grab sample from sludge pond 4	WHO TEF Concentration	SSSO1302 L1081891-28 Surface soil/source grab sample from emergency spill pond 8 dry cell	WHO TEF Concentration	SSSO9902 L1081891-37 Replicate of SSSO1302 MS/MSD was collected here (2 x volume for sludge)	WHO TEF Concentration	Relative Percentage Difference (RPD)
Total HpCDF # Homologues	-	-	1	-	3	-	3	-	2	-	20
WHO TEQ	-	-	-	6.15430	-	3.95105	-	5.46370	-	6.03364	-

J The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.
U The analyte was not detected above the CRQL.
UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.
RDSC Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration
CRSC Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration
pg/g picograms per gram
ppt parts per trillion
☆ Concentration is > benchmark
Italic Background sample
X.X Analytical Result > 3 x background value = observed contamination
EMPC Indicates the presence of a partially coeluting interference that broadens the peak. The result is an estimated maximum possible concentration.
WHO TEQ World Health Organization Toxicity Equivalent
WHO TEF Conc. World Health Organization Toxicity Equivalence Factor Concentration
Sources: EPA 2011 (CLP limits); EPA 2011 (SCDM)

TABLE 10, continued
Dioxins and Furans in Sources/Surface Soils
Units of pg/g (ppt)

Field Sample ID: Laboratory Sample ID: Location: Analytes	Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration (RDSC)	Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration (CRSC)	SSSO1402 L1081891-32 Surface soil/source grab sample from emergency spill pond 8 wet cell	WHO TEF Concentration	SSSO8902 L1081891-36 Replicate of SSSO1402 MS/MSD was collected here (2 x volume for sludge)	WHO TEF Concentration	Relative Percentage Difference (RPD)	SSSO1502 L1080162-11 Surface soil/source grab sample from wastewater storage pond 2	WHO TEF Concentration	SSSO1602 L1080162-12 Surface soil/source grab sample from wastewater storage pond 2	WHO TEF Concentration	SSSO1702 L1081891-35 Surface soil/source grab sample from area of what appeared to be exposed soil/sludge adjacent to landfill A	WHO TEF Concentration
2,3,7,8-TCDD	-	4.3	15.6 ☆	15.60000	15.0 ☆	15.00000	2	4.76 ☆	4.76000	1.14	1.14000	0.15 U	0.07500
1,2,3,7,8-PeCDD	-	8.5	5.7 J	5.70000	4.9 J	4.90000	8	3.61	3.61000	0.58 J	0.58000	0.39 U	0.19500
1,2,3,4,7,8-HxCDD	-	110	3.9 U	0.19500	5.2 U	0.27500	-	1.5 J	0.15000	0.2 J	0.02000	0.36 U	0.01800
1,2,3,6,7,8-HxCDD	-	110	32.1	3.21000	24.4	2.44000	14	15	1.50000	2.88	0.28800	3.03 ☆	0.30300
1,2,3,7,8,9-HxCDD	-	100	19	1.90000	12.8	1.28000	19	10.3	1.03000	1.93	0.19300	0.96 J	0.09600
1,2,3,4,6,7,8-HpCDD	-	4300	157	1.57000	128	1.28000	10	67.4	0.67400	13.2	0.13200	81.8	0.81800
OCDD	-	-	1190	0.35700	918	0.27540	13	311	0.09330	61.7	0.01851	788	0.23640
Total-TCDD	-	-	28.8		26.7		4	10.3		1.32		0.84	
Total TCDD # Homologues	-	-	4		3		14	10		2		2	
Total-PeCDD	-	-	12.6		29		39	31.5		2.24		1.21	
Total PeCDD # Homologues	-	-	2		5		43	10		4		1	
Total-HxCDD	-	-	189		149		12	101		17.7		12.1	
Total HxCDD # Homologues	-	-	5		4		11	5		4		2	
Total-HpCDD	-	-	308		243		12	137		25.7		147	
Total HpCDD # Homologues	-	-	2		2		0	2		2		2	
2,3,7,8-TCDF	-	43	46.5 ☆	4.65000	11.7	1.17000	60	7.98	0.79800	2.84	0.28400	1.2 J	0.12000
1,2,3,7,8-PeCDF	-	-	6 J	0.18000	6.3 J	0.18900	2	0.47 J	0.01410	0.11 J	0.00330	0.38 J	0.01140
2,3,4,7,8-PeCDF	-	43	8.7	2.61000	9.9	2.97000	6	0.76	0.22800	0.2 J	0.06000	0.77 J	0.23100
1,2,3,4,7,8-HxCDF	-	430	4 J	0.40000	3.3 U	0.16500	-	0.45 J	0.04500	0.11 UJ	0.00345	1.12	0.11200
1,2,3,6,7,8-HxCDF	-	430	2.8 U	0.14000	3.3 J	0.33000	-	0.42 U	0.00850	0.07 UJ	0.00345	0.62 J	0.06200
1,2,3,7,8,9-HxCDF	-	430	3.4 U	0.17000	3.8 U	0.19000	-	0.22 U	0.01100	0.08 U	0.00425	0.18 UJ	0.00850
2,3,4,6,7,8-HxCDF	-	430	2.9 J	0.29000	3.9 J	0.39000	15	0.62 J	0.06200	0.19 J	0.01900	0.9 J	0.09000
1,2,3,4,6,7,8-HpCDF	-	4300	15.6	0.15600	13 J	0.13000	9	3.16	0.03160	0.92	0.00920	7.35	0.07350
1,2,3,4,7,8,9-HpCDF	-	4300	4.9 U	0.02450	5.1 U	0.02750	-	0.34 U	0.00170	0.16 U	0.00080	0.67 UJ	0.00160
OCDF	-	-	44 J	0.01320	52.5	0.01575	9	7.61	0.00228	1.5 J	0.00045	16.4	0.00492
Total-TCDF	-	-	284		270		3	37.1		8.49		7.04	
Total TCDF # Homologues	-	-	13		10		13	16		10		12	
Total-PeCDF	-	-	77.3		76		1	7.3		1.36		3.2	
Total PeCDF # Homologues	-	-	10		8		11	9		5		5	
Total-HxCDF	-	-	9.3		25.2		46	4.95		1.72		10.9	
Total HxCDF # Homologues	-	-	3		5		25	6		6		6	
Total-HpCDF	-	-	39.3		22.8		27	8.33		1.89		20.8	

TABLE 10, continued
Dioxins and Furans in Sources/Surface Soils
Units of pg/g (ppt)

Field Sample ID: Laboratory Sample ID: Location: Analytes	Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration (RDSC)	Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration (CRSC)	SSSO1402 L1081891-32 Surface soil/source grab sample from emergency spill pond 8 wet cell	WHO TEF Concentration	SSSO8902 L1081891-36 Replicate of SSSO1402 MS/MSD was collected here (2 x volume for sludge)	WHO TEF Concentration	Relative Percentage Difference (RPD)	SSSO1502 L1080162-11 Surface soil/source grab sample from wastewater storage pond 2	WHO TEF Concentration	SSSO1602 L1080162-12 Surface soil/source grab sample from wastewater storage pond 2	WHO TEF Concentration	SSSO1702 L1081891-35 Surface soil/source grab sample from area of what appeared to be exposed soil/sludge adjacent to landfill A	WHO TEF Concentration
Total HpCDF # Homologues	-	-	2		1		33	2		3		3	
WHO TEQ	-	-		37.16570		31.02765			13.01948		2.75941		2.45632

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RDSC Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration
CRSC Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration
pg/g picograms per gram
ppt parts per trillion
☆ Concentration is > benchmark
Italic Background sample
X.X Analytical Result > 3 x background value = observed contamination
EMPC Indicates the presence of a partially coeluting interference that broadens the peak. The result is an estimated maximum possible concentration.
WHO TEQ World Health Organization Toxicity Equivalent
WHO TEF Conc. World Health Organization Toxicity Equivalence Factor Concentration
Sources: EPA 2011 (CLP limits); EPA 2011 (SCDM)

TABLE 11
VOCs in Sources/Surface Soils
Units of µg/kg (ppb)

Field Sample ID: Laboratory Sample ID: Location: Analytes	Superfund Chemical Data Matrix (SCDM) RDSC (µg/kg)	Superfund Chemical Data Matrix (SCDM) CRSC (µg/kg)	SSSO0102 H30Q0 BACKGROUND Surface soil grab sample from mill property to the north (upwind) of potential source areas	SSSO0202 H30Q1 Surface soil/source grab sample from landfarm area	SSSO0302 H30Q2 Surface soil/source grab sample from landfarm area	SSSO0402 H30Q3 Surface soil/source grab sample from landfarm area	SSSO0502 H30Q4 Surface soil/source grab sample from sludge pond 17	SSSO0602 H30Q6 Surface soil/source grab sample from sludge pond 17	SSSO0702 H30Q8 Surface soil/source grab sample from sludge pond 3	SSSO0802 H30R0 Surface soil/source grab sample from sludge pond 3	SSSO0902 H30R2 Surface soil/source grab sample from sludge pond 5	SSSO1002 H30R4 Surface soil/source grab sample from sludge pond 5
Dichlorodifluoromethane	-	-	5.9 U	6.3 U	6 U	5.9 U	5.8 U	9.6 U	17 U	19 U	7 U	25 U
Chloromethane	-	-	5.9 U	6.3 U	6 U	5.9 U	5.8 U	9.6 U	17 U	19 U	7 U	25 U
Vinyl chloride	230,000	93	5.9 U	6.3 U	6 U	5.9 U	5.8 U	9.6 U	17 U	19 U	7 U	25 U
Bromomethane	-	-	5.9 U	6.3 U	6 U	5.9 U	5.8 U	9.6 U	17 U	19 U	7 U	25 U
Chloroethane	-	-	5.9 U	6.3 U	6 U	5.9 U	5.8 U	9.6 U	17 U	19 U	7 U	25 U
Trichlorofluoromethane	23,000,000	-	5.9 U	6.3 U	6 U	5.9 U	5.8 U	9.6 U	17 U	19 U	7 U	25 U
1,1-Dichloroethene	3,900,000	-	5.9 U	6.3 U	6 U	5.9 U	5.8 U	9.6 U	17 U	19 U	7 U	25 U
1,1,2-Trichloro-1,2,2-trifluoroethane	-	-	5.9 U	6.3 U	6 U	5.9 U	5.8 U	9.6 U	17 U	19 U	7 U	25 U
Acetone	7,000,000	-	12 U	13 U	12 U	12 U	12 U	19 U	33 U	39 U	14 U	220
Carbon disulfide	7,800,000	-	5.9 U	6.3 U	6 U	5.9 U	5.8 U	9.6 U	17 U	19 U	7 U	13 J
Methyl acetate	-	-	5.9 U	6.3 U	6 U	5.9 U	5.8 U	9.6 U	17 U	19 U	7 U	25 U
Methylene chloride	470,000	75,000	5.9 U	6.3 U	6 U	5.9 U	5.8 U	9.6 U	17 U	19 U	7 U	25 U
trans-1,2-Dichloroethene	1,600,000	-	5.9 U	6.3 U	6 U	5.9 U	5.8 U	9.6 U	17 U	19 U	7 U	25 U
Methyl tert-butyl ether	-	360,000	5.9 U	6.3 U	6 U	5.9 U	5.8 U	9.6 U	17 U	19 U	7 U	25 U
1,1-Dichloroethane	16,000,000	110,000	5.9 U	6.3 U	6 U	5.9 U	5.8 U	9.6 U	17 U	19 U	7 U	25 U
cis-1,2-Dichloroethene	160,000	-	5.9 U	6.3 U	6 U	5.9 U	5.8 U	9.6 U	17 U	19 U	7 U	25 U
Methyl ethyl ketone (2-Butanone)	6,300,000	-	12 U	13 U	12 U	12 U	12 U	19 U	33 U	39 U	14 U	50 U
Bromochloromethane	-	-	5.9 U	6.3 U	6 U	5.9 U	5.8 U	9.6 U	17 U	19 U	7 U	25 U
Chloroform	780,000	21,000	5.9 U	6.3 U	6 U	5.9 U	5.8 U	9.6 U	17 U	19 U	34	25 U
1,1,1-Trichloroethane	160,000,000	-	5.9 U	6.3 U	6 U	5.9 U	5.8 U	9.6 U	17 U	19 U	7 U	25 U
Cyclohexane	-	-	5.9 U	6.3 U	6 U	5.9 U	5.8 U	9.6 U	17 U	19 U	7 U	25 U
Carbon tetrachloride	310,000	9,100	5.9 U	6.3 U	6 U	5.9 U	5.8 U	9.6 U	17 U	19 U	7 U	25 U
Benzene	310,000	12,000	5.9 U	6.3 U	6 U	5.9 U	5.8 U	9.6 U	17 U	19 U	7 U	25 U
1,2-Dichloroethane	470,000	7,000	5.9 U	6.3 U	6 U	5.9 U	5.8 U	9.6 U	17 U	19 U	7 U	25 U
1,4-Dioxane	-	-	120 U	130 U	120 U	120 U	120 U	190 U	330 U	390 U	140 U	500 U
Trichloroethene	39,000	8,400	5.9 U	6.3 U	6 U	5.9 U	5.8 U	9.6 U	17 U	19 U	7 U	25 U
Methylcyclohexane	-	-	5.9 U	6.3 U	6 U	5.9 U	5.8 U	9.6 U	17 U	19 U	7 U	25 U
1,2-Dichloropropane	7,000,000	18,000	5.9 U	6.3 U	6 U	5.9 U	5.8 U	9.6 U	17 U	19 U	7 U	25 U
Bromodichloromethane	1,600,000	10,000	5.9 U	6.3 U	6 U	5.9 U	5.8 U	9.6 U	17 U	19 U	7 U	25 U
cis-1,3-Dichloropropene	-	-	5.9 U	6.3 U	6 U	5.9 U	5.8 U	9.6 U	17 U	19 U	7 U	25 U
4-Methyl-2-pentanone (MIBK)	6,300,000	-	12 U	13 U	12 U	12 U	12 U	19 U	33 U	39 U	14 U	50 U
Toluene	6,300,000	-	5.9 U	6.3 U	6 U	5.9 U	5.8 U	9.6 U	17 U	19 U	7 U	25 U
trans-1,3-Dichloropropene	-	-	5.9 U	6.3 U	6 U	5.9 U	5.8 U	9.6 U	17 U	19 U	7 U	25 U
1,1,2-Trichloroethane	310,000	11,000	5.9 U	6.3 U	6 U	5.9 U	5.8 U	9.6 U	17 U	19 U	7 U	25 U

TABLE 11
VOCs in Sources/Surface Soils
Units of µg/kg (ppb)

Field Sample ID: Laboratory Sample ID: Location: Analytes	Superfund Chemical Data Matrix (SCDM) RDSC (µg/kg)	Superfund Chemical Data Matrix (SCDM) CRSC (µg/kg)	SSSO0102 H30Q0 BACKGROUND Surface soil grab sample from mill property to the north (upwind) of potential source areas	SSSO0202 H30Q1 Surface soil/source grab sample from landfarm area	SSSO0302 H30Q2 Surface soil/source grab sample from landfarm area	SSSO0402 H30Q3 Surface soil/source grab sample from landfarm area	SSSO0502 H30Q4 Surface soil/source grab sample from sludge pond 17	SSSO0602 H30Q6 Surface soil/source grab sample from sludge pond 17	SSSO0702 H30Q8 Surface soil/source grab sample from sludge pond 3	SSSO0802 H30R0 Surface soil/source grab sample from sludge pond 3	SSSO0902 H30R2 Surface soil/source grab sample from sludge pond 5	SSSO1002 H30R4 Surface soil/source grab sample from sludge pond 5
Tetrachloroethene	470,000	300,000	5.9 U	6.3 U	6 U	5.9 U	5.8 U	9.6 U	17 U	19 U	7 U	25 U
2-Hexanone	-	-	12 U	13 U	12 U	12 U	12 U	19 U	33 U	39 U	14 U	50 U
Dibromochloromethane	-	-	5.9 U	6.3 U	6 U	5.9 U	5.8 U	9.6 U	17 U	19 U	7 U	25 U
1,2-Dibromoethane	700,000	320	5.9 U	6.3 U	6 U	5.9 U	5.8 U	9.6 U	17 U	19 U	7 U	25 U
Chlorobenzene	1,600,000	-	5.9 U	6.3 U	6 U	5.9 U	5.8 U	9.6 U	17 U	19 U	7 U	25 U
Ethyl benzene	7,800,000	58,000	*5.9 U*	6.3 U	6 U	5.9 U	5.8 U	9.6 U	17 U	19 U	7 U	25 U
o-Xylene	16,000,000	-	*5.9 U*	6.3 U	6 U	5.9 U	5.8 U	9.6 U	17 U	19 U	7 U	25 U
m,p-Xylene	16,000,000	-	*5.9 U*	6.3 U	6 U	5.9 U	5.8 U	9.6 U	17 U	19 U	7 U	25 U
Styrene	16,000,000	-	*5.9 U*	6.3 U	6 U	5.9 U	5.8 U	9.6 U	17 U	19 U	7 U	25 U
Bromoform	-	-	*5.9 U*	6.3 U	6 U	5.9 U	5.8 U	9.6 U	17 U	19 U	7 U	25 U
Isopropylbenzene	-	-	*5.9 U*	6.3 U	6 U	5.9 U	5.8 U	9.6 U	17 U	19 U	7 U	25 U
1,1,2,2-Tetrachloroethane	1,600,000	3,200	*5.9 U*	6.3 U	6 U	5.9 U	5.8 U	9.6 U	17 U	19 U	7 U	25 U
1,3-Dichlorobenzene	-	-	*5.9 U*	6.3 U	6 U	5.9 U	5.8 U	9.6 U	17 U	19 U	7 U	25 U
1,4-Dichlorobenzene	5,500,000	120,000	*5.9 U*	6.3 U	6 U	5.9 U	5.8 U	9.6 U	17 U	19 U	7 U	25 U
1,2-Dichlorobenzene	-	-	*5.9 U*	6.3 U	6 U	5.9 U	5.8 U	9.6 U	17 U	19 U	7 U	25 U
1,2-Dibromo-3-chloropropane	16,000	190	*5.9 U*	6.3 U	6 U	5.9 U	5.8 U	9.6 U	17 U	19 U	7 U	25 U
1,2,4-Trichlorobenzene	780,000	22,000	*5.9 U*	6.3 U	6 U	5.9 U	5.8 U	9.6 U	17 U	19 U	7 U	25 U
1,2,3-Trichlorobenzene	-	-	*5.9 U*	6.3 U	6 U	5.9 U	5.8 U	9.6 U	17 U	19 U	7 U	25 U

J The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.
U The analyte was not detected above the CRQL.
UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.
RDSC Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration
CRSC Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration
µg/kg micrograms per kilogram
ppb parts per billion
TICs Tentatively Identified Compounds
Italic Background sample
X X Analytical Result > 3 x background value = observed contamination
☆ Concentration is > benchmark
Sources: EPA 2011 (CLP limits); EPA 2011 (SCDM)

TABLE 11, continued
VOCs in Sources/Surface Soils
Units of µg/kg (ppb)

Field Sample ID: Laboratory Sample ID: Location: Analytes	Superfund Chemical Data Matrix (SCDM) RDSC (µg/kg)	Superfund Chemical Data Matrix (SCDM) CRSC (µg/kg)	SSSO1102 H30R6 Surface soil/source grab sample from sludge pond 4	SSSO1202 H30R8 Surface soil/source grab sample from sludge pond 4	SSSO1302 H30S0 Surface soil/source grab sample from emergency spill pond 8 dry cell	SSSO9902 H30T8 Replicate of SSSO1302 MS/MSD was collected here (2 x volume for sludge)	Relative Percentage Difference (RPD)	SSSO1402 H30S2 Surface soil/source grab sample from emergency spill pond 8 wet cell	SSSO8902 H30S6 Replicate of SSSO1402 MS/MSD was collected here (2 x volume for sludge)	Relative Percentage Difference (RPD)	SSSO1502 H30S4 Surface soil/source grab sample from wastewater storage pond 2	SSSO1602 H30S5 Surface soil/source grab sample from wastewater storage pond 2	SSSO1702 H30S3 Surface soil/source grab sample from area of what appeared to be exposed soil/sludge adjacent to landfill A
Dichlorodifluoromethane	-	-	16 U	15 U	9.5 U	8.5 U	-	19 U	19 U	-	8.1 U	5.8 U	7.8 U
Chloromethane	-	-	16 U	15 U	9.5 U	8.5 U	-	19 U	19 U	-	8.1 U	5.8 U	7.8 U
Vinyl chloride	230,000	93	16 U	15 U	9.5 U	8.5 U	-	19 U	19 U	-	8.1 U	5.8 U	7.8 U
Bromomethane	-	-	16 U	15 U	9.5 U	8.5 U	-	19 U	19 U	-	8.1 U	5.8 U	7.8 U
Chloroethane	-	-	16 U	15 U	9.5 U	8.5 U	-	19 U	19 U	-	8.1 U	5.8 U	7.8 U
Trichlorofluoromethane	23,000,000	-	16 U	15 U	9.5 U	8.5 U	-	19 U	19 U	-	8.1 U	5.8 U	7.8 U
1,1-Dichloroethene	3,900,000	-	16 U	15 U	9.5 U	8.5 U	-	19 U	19 U	-	8.1 U	5.8 U	7.8 U
1,1,2-Trichloro-1,2,2-trifluoroethane	-	-	16 U	15 U	9.5 U	8.5 U	-	19 U	19 U	-	8.1 U	5.8 U	7.8 U
Acetone	7,000,000	-	32 U	59	19 U	17 U	-	60	40	-	16 U	12 U	16 U
Carbon disulfide	7,800,000	-	16 U	14 J	9.5 U	8.5 U	-	19 U	19 U	-	8.1 U	5.8 U	7.8 U
Methyl acetate	-	-	16 U	15 U	9.5 U	8.5 U	-	19 U	19 U	-	8.1 U	5.8 U	7.8 U
Methylene chloride	470,000	75,000	16 U	15 U	9.5 U	8.5 U	-	19 U	19 U	-	8.1 U	5.8 U	7.8 U
trans-1,2-Dichloroethene	1,600,000	-	16 U	15 U	9.5 U	8.5 U	-	19 U	19 U	-	8.1 U	5.8 U	7.8 U
Methyl tert-butyl ether	-	360,000	16 U	15 U	9.5 U	8.5 U	-	19 U	19 U	-	8.1 U	5.8 U	7.8 U
1,1-Dichloroethane	16,000,000	110,000	16 U	15 U	9.5 U	8.5 U	-	19 U	19 U	-	8.1 U	5.8 U	7.8 U
cis-1,2-Dichloroethene	160,000	-	16 U	15 U	9.5 U	8.5 U	-	19 U	19 U	-	8.1 U	5.8 U	7.8 U
Methyl ethyl ketone (2-Butanone)	6,300,000	-	32 U	30 U	19 U	17 U	-	39 U	38 U	-	16 U	12 U	16 U
Bromochloromethane	-	-	16 U	15 U	9.5 U	8.5 U	-	19 U	19 U	-	8.1 U	5.8 U	7.8 U
Chloroform	780,000	21,000	16 U	15 U	9.5 U	8.5 U	-	19 U	19 U	-	8.1 U	5.8 U	5.3 J
1,1,1-Trichloroethane	160,000,000	-	16 U	15 U	9.5 U	8.5 U	-	19 U	19 U	-	8.1 U	5.8 U	7.8 U
Cyclohexane	-	-	16 U	15 U	9.5 U	8.5 U	-	19 U	19 U	-	8.1 U	5.8 U	7.8 U
Carbon tetrachloride	310,000	9,100	16 U	15 U	9.5 U	8.5 U	-	19 U	19 U	-	8.1 U	5.8 U	7.8 U
Benzene	310,000	12,000	16 U	15 U	9.5 U	8.5 U	-	19 U	19 U	-	8.1 U	5.8 U	7.8 U
1,2-Dichloroethane	470,000	7,000	16 U	15 U	9.5 U	8.5 U	-	19 U	19 U	-	8.1 U	5.8 U	7.8 U
1,4-Dioxane	-	-	320 U	300 U	190 U	170 U	-	390 U	380 U	-	160 U	120 U	160 U
Trichloroethene	39,000	8,400	16 U	15 U	9.5 U	8.5 U	-	19 U	19 U	-	8.1 U	5.8 U	7.8 U
Methylcyclohexane	-	-	16 U	15 U	9.5 U	8.5 U	-	19 U	19 U	-	8.1 U	5.8 U	7.8 U
1,2-Dichloropropane	7,000,000	18,000	16 U	15 U	9.5 U	8.5 U	-	19 U	19 U	-	8.1 U	5.8 U	7.8 U
Bromodichloromethane	1,600,000	10,000	16 U	15 U	9.5 U	8.5 U	-	19 U	19 U	-	8.1 U	5.8 U	7.8 U
cis-1,3-Dichloropropene	-	-	16 U	15 U	9.5 U	8.5 U	-	19 U	19 U	-	8.1 U	5.8 U	7.8 U

TABLE 11, continued
VOCs in Sources/Surface Soils
Units of µg/kg (ppb)

Field Sample ID: Laboratory Sample ID: Location: Analytes	Superfund Chemical Data Matrix (SCDM) RDSC (µg/kg)	Superfund Chemical Data Matrix (SCDM) CRSC (µg/kg)	SSSO1102 H30R6 Surface soil/source grab sample from sludge pond 4	SSSO1202 H30R8 Surface soil/source grab sample from sludge pond 4	SSSO1302 H30S0 Surface soil/source grab sample from emergency spill pond 8 dry cell	SSSO9902 H30T8 Replicate of SSSO1302 MS/MSD was collected here (2 x volume for sludge)	Relative Percentage Difference (RPD)	SSSO1402 H30S2 Surface soil/source grab sample from emergency spill pond 8 wet cell	SSSO8902 H30S6 Replicate of SSSO1402 MS/MSD was collected here (2 x volume for sludge)	Relative Percentage Difference (RPD)	SSSO1502 H30S4 Surface soil/source grab sample from wastewater storage pond 2	SSSO1602 H30S5 Surface soil/source grab sample from wastewater storage pond 2	SSSO1702 H30S3 Surface soil/source grab sample from area of what appeared to be exposed soil/sludge adjacent to landfill A
4-Methyl-2-pentanone (MIBK)	6,300,000	-	32 U	30 U	19 U	17 U	-	39 U	38 U	-	16 U	12 U	16 U
Toluene	6,300,000	-	16 U	15 U	9.5 U	8.5 U	-	19 U	19 U	-	8.1 U	5.8 U	7.8 U
trans-1,3-Dichloropropene	-	-	16 U	15 U	9.5 U	8.5 U	-	19 U	19 U	-	8.1 U	5.8 U	7.8 U
1,1,2-Trichloroethane	310,000	11,000	16 U	15 U	9.5 U	8.5 U	-	19 U	19 U	-	8.1 U	5.8 U	7.8 U
Tetrachloroethene	470,000	300,000	16 U	15 U	9.5 U	8.5 U	-	19 U	19 U	-	8.1 U	5.8 U	7.8 U
2-Hexanone	-	-	32 U	30 U	19 U	17 U	-	39 U	38 U	-	16 U	12 U	16 U
Dibromochloromethane	-	-	16 U	15 U	9.5 U	8.5 U	-	19 U	19 U	-	8.1 U	5.8 U	7.8 U
1,2-Dibromoethane	700,000	320	16 U	15 U	9.5 U	8.5 U	-	19 U	19 U	-	8.1 U	5.8 U	7.8 U
Chlorobenzene	1,600,000	-	16 U	15 U	9.5 U	8.5 U	-	19 U	19 U	-	8.1 U	5.8 U	7.8 U
Ethyl benzene	7,800,000	58,000	16 U	15 U	9.5 U	8.5 U	-	19 U	19 U	-	8.1 U	5.8 U	7.8 U
o-Xylene	16,000,000	-	16 U	15 U	9.5 U	8.5 U	-	19 U	19 U	-	8.1 U	5.8 U	7.8 U
m,p-Xylene	16,000,000	-	16 U	15 U	9.5 U	8.5 U	-	19 U	19 U	-	8.1 U	5.8 U	7.8 U
Styrene	16,000,000	-	16 U	15 U	9.5 U	8.5 U	-	19 U	19 U	-	8.1 U	5.8 U	7.8 U
Bromoform	-	-	16 U	15 U	9.5 U	8.5 U	-	19 U	19 U	-	8.1 U	5.8 U	7.8 U
Isopropylbenzene	-	-	16 U	15 U	9.5 U	8.5 U	-	19 U	19 U	-	8.1 U	5.8 U	7.8 U
1,1,2,2-Tetrachloroethane	1,600,000	3,200	16 U	15 U	9.5 U	8.5 U	-	19 U	19 U	-	8.1 U	5.8 U	7.8 U
1,3-Dichlorobenzene	-	-	16 U	15 U	9.5 U	8.5 U	-	19 U	19 U	-	8.1 U	5.8 U	7.8 U
1,4-Dichlorobenzene	5,500,000	120,000	16 U	15 U	9.5 U	8.5 U	-	19 U	19 U	-	8.1 U	5.8 U	7.8 U
1,2-Dichlorobenzene	-	-	16 U	15 U	9.5 U	8.5 U	-	19 U	19 U	-	8.1 U	5.8 U	7.8 U
1,2-Dibromo-3-chloropropane	16,000	190	16 U	15 U	9.5 U	8.5 U	-	19 U	19 U	-	8.1 U	5.8 U	7.8 U
1,2,4-Trichlorobenzene	780,000	22,000	16 U	15 U	9.5 U	8.5 U	-	19 U	19 U	-	8.1 U	5.8 U	7.8 U
1,2,3-Trichlorobenzene	-	-	16 U	15 U	9.5 U	8.5 U	-	19 U	19 U	-	8.1 U	5.8 U	7.8 U

J The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.
U The analyte was not detected above the CRQL.
UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.
RDSC Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration
CRSC Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration
µg/kg micrograms per kilogram
ppb parts per billion
TICs Tentatively Identified Compounds
Italic Background sample
X.X Analytical Result > 3 x background value = observed contamination
☆ Concentration is > benchmark
Sources: EPA 2011 (CLP limits); EPA 2011 (SCDM)

TABLE 12
SVOCs in Sources/Surface Soils
Units of µg/kg (ppb)

Field Sample ID: Laboratory Sample ID: Location: Analytes	Superfund Chemical Data Matrix (SCDM) RDSC (µg/kg)	Superfund Chemical Data Matrix (SCDM) CRSC (µg/kg)	SSSO0102 H30Q0 BACKGROUND Surface soil grab sample from mill property to the north (upwind) of potential source areas	SSSO0202 H30Q1 Surface soil/source grab sample from landfarm area	SSSO0302 H30Q2 Surface soil/source grab sample from landfarm area	SSSO0402 H30Q3 Surface soil/source grab sample from landfarm area	SSSO0502 H30Q4 Surface soil/source grab sample from sludge pond 17	SSSO0602 H30Q6 Surface soil/source grab sample from sludge pond 17	SSSO0702 H30Q8 Surface soil/source grab sample from sludge pond 3	SSSO0802 H30R0 Surface soil/source grab sample from sludge pond 3	SSSO0902 H30R2 Surface soil/source grab sample from sludge pond 5	SSSO1002 H30R4 Surface soil/source grab sample from sludge pond 5	SSSO1102 H30R6 Surface soil/source grab sample from sludge pond 4	SSSO1202 H30R8 Surface soil/source grab sample from sludge pond 4
Benzaldehyde	-	-	*200 U*	220 U	200 U	210 U	200 U	320 U	120 J	650 U	240 U	820 U	510 U	480 U
Phenol	23,000,000	-	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
Bis(2-chloroethyl)ether	-	-	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
2-Chlorophenol	-	-	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
2-Methylphenol	-	-	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
2,2'-Oxybis(1-chloropropane)	-	-	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
Acetophenone	-	-	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
4-Methylphenol	390,000	-	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	210 J	240 U	40,000 J	1400	410 J
N-Nitroso-di-n-propylamine	-	-	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
Hexachloroethane	-	-	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
Nitrobenzene	-	-	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
Isophorone	-	-	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
2-Nitrophenol	-	-	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
2,4-Dimethylphenol	1,600,000	-	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
Bis(2-chloroethoxy)methane	-	-	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
2,4-Dichlorophenol	230,000	-	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
Naphthalene	3,100,000	-	*200 U*	220 U	200 U	210 U	50 J	210 J	200 J	650 U	240 U	250 J	510 U	480 U
4-Chloroaniline	-	-	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
Hexachlorobutadiene	16,000	8,200	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
Caprolactam	-	-	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
4-Chloro-3-methylphenol	-	-	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
2-Methylnaphthalene	-	-	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
Hexachlorocyclopentadiene	-	-	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
2,4,6-Trichlorophenol	-	58,000	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
2,4,5-Trichlorophenol	-	-	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
1,1'-Biphenyl	-	-	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
2-Chloronaphthalene	-	-	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
2-Nitroaniline	-	-	*380 U*	420 U	390 U	400 U	390 U	630 U	1100 U	1300 U	470 U	1600 U	980 U	940 U
Dimethylphthalate	-	-	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
2,6-Dinitrotoluene	-	-	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
Acenaphthylene	-	-	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
3-Nitroaniline	-	-	*380 U*	420 U	390 U	400 U	390 U	630 U	1100 U	1300 U	470 U	1600 U	980 U	940 U

TABLE 12
SVOCs in Sources/Surface Soils
Units of µg/kg (ppb)

Field Sample ID: Laboratory Sample ID: Location: Analytes	Superfund Chemical Data Matrix (SCDM) RDSC (µg/kg)	Superfund Chemical Data Matrix (SCDM) CRSC (µg/kg)	SSSO0102 H30Q0 BACKGROUND Surface soil grab sample from mill property to the north (upwind) of potential source areas	SSSO0202 H30Q1 Surface soil/source grab sample from landfarm area	SSSO0302 H30Q2 Surface soil/source grab sample from landfarm area	SSSO0402 H30Q3 Surface soil/source grab sample from landfarm area	SSSO0502 H30Q4 Surface soil/source grab sample from sludge pond 17	SSSO0602 H30Q6 Surface soil/source grab sample from sludge pond 17	SSSO0702 H30Q8 Surface soil/source grab sample from sludge pond 3	SSSO0802 H30R0 Surface soil/source grab sample from sludge pond 3	SSSO0902 H30R2 Surface soil/source grab sample from sludge pond 5	SSSO1002 H30R4 Surface soil/source grab sample from sludge pond 5	SSSO1102 H30R6 Surface soil/source grab sample from sludge pond 4	SSSO1202 H30R8 Surface soil/source grab sample from sludge pond 4
Acenaphthene	4,700,000	-	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
2,4-Dinitrophenol	-	-	*380 U*	420 U	390 U	400 U	390 U	630 U	1100 U	1300 U	470 U	1600 U	980 U	940 U
4-Nitrophenol	-	-	*380 U*	420 U	390 U	400 U	390 U	630 U	1100 U	1300 U	470 U	1600 U	980 U	940 U
Dibenzofuran	310,000	-	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
2,4-Dinitrotoluene	-	-	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
Diethylphthalate	63,000,000	-	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	260 J	510 U	480 U
Fluorene	3,100,000	-	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
4-Chlorophenyl-phenylether	-	-	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
4-Nitroaniline	-	-	*380 U*	420 U	390 U	400 U	390 U	630 U	1100 U	1300 U	470 U	1600 U	980 U	940 U
4,6-Dinitro-2-methylphenol	-	-	*380 U*	420 U	390 U	400 U	390 U	630 U	1100 U	1300 U	470 U	1600 U	980 U	940 U
N-Nitrosodiphenylamine	-	130,000	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
1,2,4,5-Tetrachlorobenzene	23,000	-	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
4-Bromophenyl-phenylether	-	-	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
Hexachlorobenzene	63,000	400	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
Atrazine	-	-	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
Pentachlorophenol	2,300,000	5,300	*380 U*	420 U	390 U	400 U	390 U	630 U	1100 U	1300 U	470 U	1600 U	980 U	940 U
Phenanthrene	-	-	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	200 J	510 U	480 U
Anthracene	23,000,000	-	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
Carbazole	-	32,000	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
Di-n-butylphthalate	7,800,000	-	*61 J (610)*	43 J	45 J	45 J	200 U	320 U	570 U	750	86 J	3800	570	1000
Fluoranthene	-	-	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
Pyrene	2,300,000	-	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
Butylbenzylphthalate	16,000,000	-	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	860	510 U	480 U
3,3'-Dichlorobenzidine	-	-	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
Benzo(a)anthracene	-	880	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
Chrysene	-	88,000	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
Bis(2-ethylhexyl)phthalate	1,600,000	46,000	*81 J (810)*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	290	820 U	820	480 U
Di-n-octylphthalate	-	-	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
Benzo(b)fluoranthene	-	-	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
Benzo(k)fluoranthene	-	8,800	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
Benzo(a)pyrene	-	88	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
Indeno(1,2,3-cd)pyrene	-	880	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U

TABLE 12
SVOCs in Sources/Surface Soils
Units of µg/kg (ppb)

Field Sample ID: Laboratory Sample ID: Location: Analytes	Superfund Chemical Data Matrix (SCDM) RDSC (µg/kg)	Superfund Chemical Data Matrix (SCDM) CRSC (µg/kg)	SSSO0102 H30Q0 BACKGROUND Surface soil grab sample from mill property to the north (upwind) of potential source areas	SSSO0202 H30Q1 Surface soil/source grab sample from landfarm area	SSSO0302 H30Q2 Surface soil/source grab sample from landfarm area	SSSO0402 H30Q3 Surface soil/source grab sample from landfarm area	SSSO0502 H30Q4 Surface soil/source grab sample from sludge pond 17	SSSO0602 H30Q6 Surface soil/source grab sample from sludge pond 17	SSSO0702 H30Q8 Surface soil/source grab sample from sludge pond 3	SSSO0802 H30R0 Surface soil/source grab sample from sludge pond 3	SSSO0902 H30R2 Surface soil/source grab sample from sludge pond 5	SSSO1002 H30R4 Surface soil/source grab sample from sludge pond 5	SSSO1102 H30R6 Surface soil/source grab sample from sludge pond 4	SSSO1202 H30R8 Surface soil/source grab sample from sludge pond 4
Dibenzo(a,h)anthracene		88	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
Benzo(g,h,i)perylene	-	-	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U
2,3,4,6-Tetrachlorophenol	-	-	*200 U*	220 U	200 U	210 U	200 U	320 U	570 U	650 U	240 U	820 U	510 U	480 U

J The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.
U The analyte was not detected above the CRQL.
UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.
RDSC Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration
CRSC Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration
µg/kg micrograms per kilogram
ppb parts per billion
Italic Background sample
X X Analytical Result > 3 x background value = observed contamination
☆ Concentration is > benchmark
Sources: EPA 2011 (CLP limits); EPA 2011 (SCDM)

TABLE 12, continued
SVOCs in Sources/Surface Soils
Units of µg/kg (ppb)

Field Sample ID: Laboratory Sample ID: Location: Analytes	Superfund Chemical Data Matrix (SCDM) RDSC (µg/kg)	Superfund Chemical Data Matrix (SCDM) CRSC (µg/kg)	SSSO1302 H30S0 Surface soil/source grab sample from emergency spill pond 8 dry cell	SSSO9902 H30T8 Replicate of SSSO1302 MS/MSD was collected here (2 x volume for sludge)	Relative Percentage Difference (RPD)	SSSO1402 H30S2 Surface soil/source grab sample from emergency spill pond 8 wet cell	SSSO8902 H30S6 Replicate of SSSO1402 MS/MSD was collected here (2 x volume for sludge)	Relative Percentage Difference (RPD)	SSSO1502 H30S4 Surface soil/source grab sample from wastewater storage pond 2	SSSO1602 H30S5 Surface soil/source grab sample from wastewater storage pond 2	SSSO1702 H30S3 Surface soil/source grab sample from area of what appeared to be exposed soil/sludge adjacent to landfill A
Benzaldehyde	-	-	300 U	290 U	-	610 U	650 U	-	270 U	200 U	250 U
Phenol	23,000,000	-	300 U	290 U	-	610 U	170 J	-	270 U	200 U	250 U
Bis(2-chloroethyl)ether	-	-	300 U	290 U	-	610 U	650 U	-	270 U	200 U	250 U
2-Chlorophenol	-	-	300 U	290 U	-	610 U	650 U	-	270 U	200 U	250 U
2-Methylphenol	-	-	300 U	290 U	-	610 U	650 U	-	270 U	200 U	250 U
2,2'-Oxybis(1-chloropropane)	-	-	300 U	290 U	-	610 U	650 U	-	270 U	200 U	250 U
Acetophenone	-	-	300 U	290 U	-	510 J	400 J	12	270 U	200 U	130 J
4-Methylphenol	390,000	-	60 J	290 U	-	1200	1100	4	270 U	200 U	54 J
N-Nitroso-di-n-propylamine	-	-	300 U	290 U	-	610 U	650 U	-	270 U	200 U	250 U
Hexachloroethane	-	-	300 U	290 U	-	610 U	650 U	-	270 U	200 U	250 U
Nitrobenzene	-	-	300 U	290 U	-	610 U	650 U	-	270 U	200 U	250 U
Isophorone	-	-	300 U	290 U	-	610 U	650 U	-	270 U	200 U	250 U
2-Nitrophenol	-	-	300 U	290 U	-	610 U	650 U	-	270 U	200 U	250 U
2,4-Dimethylphenol	1,600,000	-	300 U	290 U	-	610 U	650 U	-	270 U	200 U	250 U
Bis(2-chloroethoxy)methane	-	-	300 U	290 U	-	610 U	650 U	-	270 U	200 U	250 U
2,4-Dichlorophenol	230,000	-	300 U	290 U	-	610 U	650 U	-	270 U	200 U	250 U
Naphthalene	3,100,000	-	300 U	290 U	-	680	500 J	15	270 U	200 U	250 U
4-Chloroaniline	-	-	300 U	290 U	-	610 U	650 U	-	270 U	200 U	250 U
Hexachlorobutadiene	16,000	8,200	300 U	290 U	-	610 U	650 U	-	270 U	200 U	250 U
Caprolactam	-	-	300 U	290 U	-	610 U	650 U	-	270 U	200 U	250 U
4-Chloro-3-methylphenol	-	-	300 U	290 U	-	610 U	650 U	-	270 U	200 U	250 U
2-Methylnaphthalene	-	-	300 U	290 U	-	160 J	650 U	-	270 U	200 U	250 U
Hexachlorocyclopentadiene	-	-	300 U	290 U	-	610 U	650 U	-	270 U	200 U	250 U
2,4,6-Trichlorophenol	-	58,000	300 U	290 U	-	610 U	650 U	-	270 U	200 U	250 U
2,4,5-Trichlorophenol	-	-	300 U	290 U	-	610 U	650 U	-	270 U	200 U	250 U
1,1'-Biphenyl	-	-	300 U	290 U	-	610 U	650 U	-	270 U	200 U	250 U
2-Chloronaphthalene	-	-	300 U	290 U	-	610 U	650 U	-	270 U	200 U	250 U
2-Nitroaniline	-	-	580 U	570 U	-	1200 U	1300 U	-	520 U	380 U	480 U
Dimethylphthalate	-	-	300 U	290 U	-	610 U	650 U	-	270 U	200 U	250 U
2,6-Dinitrotoluene	-	-	300 U	290 U	-	610 U	650 U	-	270 U	200 U	250 U
Acenaphthylene	-	-	300 U	290 U	-	300 J	250 J	9	270 U	200 U	250 U
3-Nitroaniline	-	-	580 U	570 U	-	1200 U	1300 U	-	520 U	380 U	480 U

TABLE 12, continued
SVOCs in Sources/Surface Soils
Units of µg/kg (ppb)

Field Sample ID: Laboratory Sample ID: Location: Analytes	Superfund Chemical Data Matrix (SCDM) RDSC (µg/kg)	Superfund Chemical Data Matrix (SCDM) CRSC (µg/kg)	SSSO1302 H30S0 Surface soil/source grab sample from emergency spill pond 8 dry cell	SSSO9902 H30T8 Replicate of SSSO1302 MS/MSD was collected here (2 x volume for sludge)	Relative Percentage Difference (RPD)	SSSO1402 H30S2 Surface soil/source grab sample from emergency spill pond 8 wet cell	SSSO8902 H30S6 Replicate of SSSO1402 MS/MSD was collected here (2 x volume for sludge)	Relative Percentage Difference (RPD)	SSSO1502 H30S4 Surface soil/source grab sample from wastewater storage pond 2	SSSO1602 H30S5 Surface soil/source grab sample from wastewater storage pond 2	SSSO1702 H30S3 Surface soil/source grab sample from area of what appeared to be exposed soil/sludge adjacent to landfill A
Acenaphthene	4,700,000	-	300 U	290 U	-	610 U	650 U	-	270 U	200 U	250 U
2,4-Dinitrophenol	-	-	580 U	570 U	-	1200 U	1300 U	-	520 U	380 U	480 U
4-Nitrophenol	-	-	580 U	570 U	-	1200 U	1300 U	-	520 U	380 U	480 U
Dibenzofuran	310,000	-	300 U	290 U	-	610 U	650 U	-	270 U	200 U	250 U
2,4-Dinitrotoluene	-	-	300 U	290 U	-	610 U	650 U	-	270 U	200 U	250 U
Diethylphthalate	63,000,000	-	300 U	290 U	-	610 U	650 U	-	270 U	200 U	250 U
Fluorene	3,100,000	-	300 U	290 U	-	190 J	650 U	-	270 U	200 U	250 U
4-Chlorophenyl-phenylether	-	-	300 U	290 U	-	610 U	650 U	-	270 U	200 U	250 U
4-Nitroaniline	-	-	580 U	570 U	-	1200 U	1300 U	-	520 U	380 U	480 U
4,6-Dinitro-2-methylphenol	-	-	580 U	570 U	-	1200 U	1300 U	-	520 U	380 U	480 U
N-Nitrosodiphenylamine	-	130,000	300 U	290 U	-	610 U	650 U	-	270 U	200 U	250 U
1,2,4,5-Tetrachlorobenzene	23,000	-	300 U	290 U	-	610 U	650 U	-	270 U	200 U	250 U
4-Bromophenyl-phenylether	-	-	300 U	290 U	-	610 U	650 U	-	270 U	200 U	250 U
Hexachlorobenzene	63,000	400	300 U	290 U	-	610 U	650 U	-	270 U	200 U	250 U
Atrazine	-	-	300 U	290 U	-	610 U	650 U	-	270 U	200 U	250 U
Pentachlorophenol	2,300,000	5,300	580 U	570 U	-	1200 U	1300 U	-	520 U	380 U	480 U
Phenanthrene	-	-	86 J	290 U	-	1400	1100	12	270 U	200 U	250 U
Anthracene	23,000,000	-	300 U	290 U	-	290 J	650 U	-	270 U	200 U	250 U
Carbazole	-	32,000	300 U	290 U	-	610 U	650 U	-	270 U	200 U	250 U
Di-n-butylphthalate	7,800,000	-	260 J	210 J	11	5900	650 U	-	76 J	200 U	200 J
Fluoranthene	-	-	300 U	290 U	-	3300	650 U	-	270 U	200 U	250 U
Pyrene	2,300,000	-	300 U	290 U	-	1900	650 U	-	270 U	200 U	71 J
Butylbenzylphthalate	16,000,000	-	300 U	290 U	-	610 U	650 U	-	270 U	200 U	250 U
3,3'-Dichlorobenzidine	-	-	300 U	290 U	-	610 U	650 U	-	270 U	200 U	250 U
Benzo(a)anthracene	-	880	300 U	290 U	-	610 U	650 U	-	270 U	200 U	250 U
Chrysene	-	88,000	300 U	290 U	-	610 U	650 U	-	270 U	200 U	250 U
Bis(2-ethylhexyl)phthalate	1,600,000	46,000	1200	560	36	610 U	3800	-	270 U	200 U	10,000
Di-n-octylphthalate	-	-	300 U	290 U	-	610 U	650 U	-	270 U	200 U	250 U
Benzo(b)fluoranthene	-	-	300 U	290 U	-	360 J	210 J	26	270 U	200 U	250 U
Benzo(k)fluoranthene	-	8,800	300 U	290 U	-	220 J	150 J	19	270 U	200 U	250 U
Benzo(a)pyrene	-	88	300 U	290 U	-	250 J ☆	160 J ☆	22	270 U	200 U	250 U
Indeno(1,2,3-cd)pyrene	-	880	300 U	290 U	-	610 U	650 U	-	270 U	200 U	250 U

TABLE 12, continued
SVOCs in Sources/Surface Soils
Units of µg/kg (ppb)

Field Sample ID: Laboratory Sample ID: Location: Analytes	Superfund Chemical Data Matrix (SCDM) RDSC (µg/kg)	Superfund Chemical Data Matrix (SCDM) CRSC (µg/kg)	SSSO1302 H30S0 Surface soil/source grab sample from emergency spill pond 8 dry cell	SSSO9902 H30T8 Replicate of SSSO1302 MS/MSD was collected here (2 x volume for sludge)	Relative Percentage Difference (RPD)	SSSO1402 H30S2 Surface soil/source grab sample from emergency spill pond 8 wet cell	SSSO8902 H30S6 Replicate of SSSO1402 MS/MSD was collected here (2 x volume for sludge)	Relative Percentage Difference (RPD)	SSSO1502 H30S4 Surface soil/source grab sample from wastewater storage pond 2	SSSO1602 H30S5 Surface soil/source grab sample from wastewater storage pond 2	SSSO1702 H30S3 Surface soil/source grab sample from area of what appeared to be exposed soil/sludge adjacent to landfill A
Dibenzo(a,h)anthracene		88	300 U	290 U	-	610 U	650 U	-	270 U	200 U	250 U
Benzo(g,h,i)perylene	-	-	300 U	290 U	-	610 U	650 U	-	270 U	200 U	250 U
2,3,4,6-Tetrachlorophenol	-	-	300 U	290 U	-	610 U	650 U	-	270 U	200 U	250 U

J The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.
U The analyte was not detected above the CRQL.
UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.
RDSC Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration
CRSC Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration
µg/kg micrograms per kilogram
ppb parts per billion
Italic Background sample
X.X Analytical Result > 3 x background value = observed contamination
☆ Concentration is > benchmark
Sources: EPA 2011 (CLP limits); EPA 2011 (SCDM)

TABLE 13
Total Metals and Asbestos in Sources/Surface Soils
Units of mg/kg (ppm)

Field Sample ID: Laboratory Sample ID: Location: Analytes	Superfund Chemical Data Matrix (SCDM) RDSC (mg/kg)	Superfund Chemical Data Matrix (SCDM) CRSC (mg/kg)	SSSO0102 H30Q0 BACKGROUND Surface soil grab sample from mill property to the north (upwind) of potential source areas	SSSO0202 H30Q1 Surface soil/source grab sample from landfarm area	SSSO0302 H30Q2 Surface soil/source grab sample from landfarm area	SSSO0402 H30Q3 Surface soil/source grab sample from landfarm area	SSSO0502 H30Q4 Surface soil/source grab sample from sludge pond 17	SSSO0602 H30Q6 Surface soil/source grab sample from sludge pond 17
Asbestos Content (%)	-	-	*ND*	ND	ND	NA	NA	NA
Aluminum	-	-	*10,300*	10,500	6,440	9,630	14,300	6,230
Antimony	31	-	*0.73 J+*	0.55 J+ (0.28)	0.2 J (0.1)	0.59 J+ (0.30)	1.3 J+ (0.66)	2 J+ (1.0)
Arsenic	23	0.43	*8.5* ☆	4.8 J+ (2.8) ☆	3.4 ☆	5.8 J+ (3.3) ☆	10.7 ☆	26.9 ☆
Barium	5,500	-	*232*	208	149	238	624	842
Beryllium	160	-	*0.9 J+*	0.89 J+ (0.70)	0.58	0.88 J+ (0.69)	0.63 J+ (0.49)	0.31 J+ (0.24)
Cadmium	39	-	*1.5 J+*	0.69	0.51 J (0.36)	0.7 J+ (0.5)	3 J+ (2)	12.5
Calcium	-	-	*6,540*	3,230	2,780	3,580	52,300	215,000
Chromium	230	-	*11.0*	10.1	7.9	9.3	19.2	23.3
Cobalt	-	-	*5.6 J (7.0)*	6	3.5 J (2.8)	6.7	4.2 J (3.4)	3.3 J (2.6)
Copper	-	-	*71.7*	18.5	13.5	19	37.5	91.8
Iron	-	-	*14700*	13900	9730	13600	14700	5200
Lead	-	-	*19.6*	11.2	7.5	11.9	23.3	61.4
Magnesium	-	-	*6,250*	4,980	3,320	4,460	6,970	17,600
Manganese	11,000	-	*435*	402	280	512	1590	4020
Nickel	1,600	-	*9.8*	9.6	6.0	9.8	18.2	17
Potassium	-	-	*2580*	1790	1500	1820	7870	3000
Selenium	390	-	*3.9 U*	4.0 U	3.9 U	3.8 U	4.2 U	5.7 U
Silver	390	-	*1.1 UJ*	1.1 UJ	1.1 U	1.1 UJ	1.2 UJ	3.6
Sodium	-	-	*149 J (3789)*	200 J (7.86)	223 J (8.77)	215 J (8.45)	1,300	5,180
Thallium	-	-	*2.8 U*	2.9 U	2.8 U	2.7 U	3.0 U	4.1 U
Vanadium	550	-	*15.9*	14.0	11.9	14.7	22.9	8.4
Zinc	23,000	-	*235*	49.4	40.8	49.9	239	968

J The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.
J+ The associated numerical value is an estimated quantity but the result may be biased high.
U The analyte was not detected above the CRQL.
UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.
ND Not detected.
NA Not analyzed.
RDSC Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration
CRSC Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration
mg/kg milligrams per kilogram
ppm parts per million
X.X Analytical Result > 3 x background value = observed contamination
☆ Concentration is > benchmark
Italic Background sample
(23.4) Adjusted value- estimated results have been adjusted per HRS guidelines and are to be used for comparison to background values.

Sources: EPA 2011 (CLP limits); EPA 2011 (SCDM)

TABLE 13, continued
Total Metals and Asbestos in Sources/Surface Soils
Units of mg/kg (ppm)

Field Sample ID: Laboratory Sample ID: Location: Analytes	Superfund Chemical Data Matrix (SCDM) RDSC (mg/kg)	Superfund Chemical Data Matrix (SCDM) CRSC (mg/kg)	SSSO0702 H30Q8 Surface soil/source grab sample from sludge pond 3	SSSO0802 H30R0 Surface soil/source grab sample from sludge pond 3	SSSO0902 H30R2 Surface soil/source grab sample from sludge pond 5	SSSO1002 H30R4 Surface soil/source grab sample from sludge pond 5	SSSO1102 H30R6 Surface soil/source grab sample from sludge pond 4	SSSO1202 H30R8 Surface soil/source grab sample from sludge pond 4
Asbestos Content (%)	-	-	NA	NA	NA	NA	NA	NA
Aluminum	-	-	15,000	5,860	1,010	2,660	2,450	4,230
Antimony	31	-	3.4 J+ (1.7)	1.2 J+ (0.61)	7.0 UJ	4.6 UJ	11.2 UJ	11.4 UJ
Arsenic	23	0.43	71.4 ☆	8.9 J+ (5.1) ☆	2.3 J+ (1.3) ☆	2.8 J+ (1.6) ☆	3.4 J+ (1.9) ☆	4.6 J+ (2.6) ☆
Barium	5,500	-	1750	801	281 J (70.4)	386 J (96.7)	314 J (78.7)	644 J (161)
Beryllium	160	-	0.53 J+ (0.41)	0.15 J+ (0.12)	0.59 UJ	0.06 J (0.05)	0.94 UJ	0.1 J (0.08)
Cadmium	39	-	17.9	3.8 J+ (2.7)	0.74 J+ (0.52)	2.6 J+ (1.8)	12.7	12.1
Calcium	-	-	174,000	302,000	242,000 J (189,062)	103,000 J (80,469)	148,000 J (11,562)	190,000 J (14,843)
Chromium	230	-	29.1	29.2	11.7 J (9.1)	9.6 J (7.4)	12.8 J (9.92)	26.3 J (20.4)
Cobalt	-	-	6.1	1.2 J (0.96)	5.9 UJ	3.8 UJ	9.4 UJ	9.5 UJ
Copper	-	-	150	49.8	14.9 J (12.2)	34.6 J (28.4)	20.4 J (16.7)	68.4 J (56.1)
Iron	-	-	7520	3530	960	1160	1490	3250
Lead	-	-	108	18.5	2.2 UJ	6.2 J (4.3)	13.1 J (9.1)	11.2 J (7.8)
Magnesium	-	-	18,500	11,600	5,350	4,990	3,180	6,820
Manganese	11,000	-	6840	2090	598	1050	797	1990
Nickel	1,600	-	20.9	21.2	8 J (5.9)	6.9 J (5.1)	11.8 J (15.9)	17 J (12.6)
Potassium	-	-	6020	1270 J-	586 UJ	577 J (33.0)	936 UJ	952 UJ
Selenium	390	-	0.95 J (0.42)	2.2 J (0.96)	0.48 J-	0.76 J-	1.2 J-	1 J-
Silver	390	-	2.7	2.9 UJ	0.48 J-	1.2 J-	0.78 J-	2.6 J-
Sodium	-	-	7,070	7,620	10,100	6,180	3,840	7,670
Thallium	-	-	2.2	7.1 U	2.9 U	1.9 U	4.7 U	4.8 U
Vanadium	550	-	16.8	14.3 U	5.9 UJ	3.8 UJ	9.4 UJ	9.5 UJ
Zinc	23,000	-	1300	346	80 J (53)	197 J (131)	197 J (131)	441 J (294)

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J- The associated numerical value is an estimated quantity but the result may be biased low.
J+ The associated numerical value is an estimated quantity but the result may be biased high.
U The analyte was not detected above the CRQL.
UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.
ND Not detected.
NA Not analyzed.
RDSC Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration
CRSC Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration
mg/kg milligrams per kilogram
ppm parts per million
X.X Analytical Result > 3 x background value = observed contamination
☆ Concentration is > benchmark
Italic Background sample
(23.4) Adjusted value- estimated results have been adjusted per HRS guidelines and are to be used for comparison to background values.
Sources: EPA 2011 (CLP limits); EPA 2011 (SCDM)

TABLE 13, continued
Total Metals and Asbestos in Sources/Surface Soils
Units of mg/kg (ppm)

Field Sample ID: Laboratory Sample ID: Location: Analytes	Superfund Chemical Data Matrix (SCDM) RDSC (mg/kg)	Superfund Chemical Data Matrix (SCDM) CRSC (mg/kg)	SSSO1302 H30S0 Surface soil/source grab sample from emergency spill pond 8 dry cell	SSSO9902 H30T8 Replicate of SSSO1302 MS/MSD was collected here (2 x volume for sludge)	Relative Percentage Difference (RPD)	SSSO1402 H30S2 Surface soil/source grab sample from emergency spill pond 8 wet cell	SSSO8902 H30S6 Replicate of SSSO1402 MS/MSD was collected here (2 x volume for sludge)	Relative Percentage Difference (RPD)	SSSO1502 H30S4 Surface soil/source grab sample from wastewater storage pond 2	SSSO1602 H30S5 Surface soil/source grab sample from wastewater storage pond 2	SSSO1702 H30S3 Surface soil/source grab sample from area of what appeared to be exposed soil/sludge adjacent to landfill A
Asbestos Content (%)	-	-	NA	NA	-	NA	NA		NA	NA	NA
Aluminum	-	-	5,180	3,270	23	6,090	7,630	11	9,130	6,610	3,720
Antimony	31	-	10.7 UJ	0.4 8.5 UJ	-	4.9 UJ	5.2 UJ	-	6.9 UJ	5.7 UJ	6.4 UJ
Arsenic	23	0.43	1.8 UJ	3.2 J+ (1.8) ☆	-	9.4 J (5.4) ☆	12.3 J (7.1) ☆	13	2.5 J (1.4) ☆	1.4 J (0.8) ☆	6.4 J (3.7) ☆
Barium	5,500	-	675 J (169)	654 J (163)	2	671 J (168)	748 J (187)	5	306 J (76.7)	158 J (39.6)	383 J (96.0)
Beryllium	160	-	0.1 J (0.08)	0.09 J (0.07)	5	0.13 J (0.10)	0.16 J (0.13)	10	0.67 J-	0.38 J-	0.47 J (0.37)
Cadmium	39	-	3.6 J+ (2.6)	2.1 J+ (1.5)	9	5.7	7	10	0.94	0.55	3.7 J+ (2.6)
Calcium	-	-	200,000 J (156,250)	182,000 J (142,188)	5	107,000 J (83,594)	116,000 J (90,625)	4	6,760 J (5,281)	1,880 J (1,567)	211,000 J (164,843)
Chromium	230	-	23.2 J (18.0)	29.7 J (23.0)	12	18.1 J (14.0)	20.1 J (15.6)	5	14.7 J (11.4)	9.5 J (7.4)	45.1 J (35.0)
Cobalt	-	-	8.9 UJ	7.0 UJ	-	4.0 UJ	4.4 UJ	-	5.7 UJ	4.8 UJ	5.4 J (4.3)
Copper	-	-	52.3 J (42.9)	58.3 J (47.8)	5	42.3 J (34.7)	47.4 J (38.9)	6	18.4 J (15.1)	26.8 J (22.0)	90.1 J (73.9)
Iron	-	-	2520	4050	23	3030	3400	6	10400	8000	32900
Lead	-	-	15.9 J (11.0)	14.6 J (10.1)	4	18 J (12.5)	20.1 J (14.0)	6	11.8 J (8.2)	8.9 J (6.2)	61.7 J (42.8)
Magnesium	-	-	6,250	4,320	18	6,040	7,380	10	6,400	3,020	6,830
Manganese	11,000	-	1870	1560	9	1470	1580	4	238	98.2	536
Nickel	1,600	-	21.2 J (15.7)	16.3 J (12.1)	13	11 J (8.1)	11.6 J (8.6)	3	8.3 J (6.1)	5.2 J (3.9)	80.3 J (59.5)
Potassium	-	-	890 UJ	705 UJ	-	1170 J (66.9)	1410 J (80.6)	9	2610 J (149)	1500 J (85.8)	532 UJ
Selenium	390	-	4.2 J-	0.82 J-	67	1.1 J-	1.2 J-	4	4 UJ	3.3 UJ	3.7 UJ
Silver	390	-	1.8 J-	1.4 J-	13	1.1 J-	1.1 J-	0	1.1 U	0.95 U	1.1 UJ
Sodium	-	-	5,260	3,810	16	4,920	5,880	9	1,010	1,060	4,500
Thallium	-	-	4.4 U	3.5 U	-	2.0 U	2.2 U	-	2.9 U	2.4 U	2.7 U
Vanadium	550	-	8.9 UJ	7.0 UJ	-	25.3 J (18.9)	32.8 J (24.5)	13	12.1 J (9.0)	10.8 J (8.1)	6.7 J (5.0)
Zinc	23,000	-	328 J (219)	248 J (165)	14	304 J (203)	357 J (238)	8	72.3 J (48.2)	58.6 J (39.1)	425 J (283)

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UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.
ND Not detected.
NA Not analyzed.
RDSC Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration
CRSC Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration
mg/kg milligrams per kilogram
ppm parts per million
X.X Analytical Result > 3 x background value = observed contamination
☆ Concentration is > benchmark
Italic Background sample
(23.4) Adjusted value- estimated results have been adjusted per HRS guidelines and are to be used for comparison to background values.
Sources: EPA 2011 (CLP limits); EPA 2011 (SCDM)

TABLE 14
PCBs in Sources/Subsurface Soils
Units of µg/kg (ppb)

Field Sample ID:	SSSO0102	SSSO0514	SSSO0612	SSSO0716	SSSO0816	SSSO0916	SSSO1110	SSSO1306
Laboratory Sample ID:	H30Q0	H30Q5	H30Q7	H30Q9	H30R1	H30R3	H30R7	H30S1
Location:	BACKGROUND	Subsurface soil/source grab sample from sludge pond 17	Subsurface soil/source grab sample from sludge pond 17	Subsurface soil/source grab sample from sludge pond 3	Subsurface soil/source grab sample from sludge pond 3	Subsurface soil/source grab sample from sludge pond 5	Subsurface soil/source grab sample from sludge pond 4	Subsurface soil/source grab sample from emergency spill pond 8 dry cell
Analytes	Surface soil grab sample from mill property to the north (upwind) of potential source areas							
Aroclor-1016	*38 U*	74 U	100 U	87 U	72 U	88 U	43 U	45 U
Aroclor-1221	*38 U*	74 U	100 U	87 U	72 U	88 U	43 U	45 U
Aroclor-1232	*38 U*	74 U	100 U	87 U	72 U	88 U	43 U	45 U
Aroclor-1242	*38 U*	74 U	100 U	87 U	72 U	88 U	43 U	45 U
Aroclor-1248	*38 U*	74 U	100 U	87 U	72 U	65 J	36 J	45 U
Aroclor-1254	*38 U*	74 U	100 U	87 U	72 U	89 J	64	88 J
Aroclor-1260	*38 U*	74 U	100 U	87 U	72 U	88 U	43 U	45 U
Aroclor-1262	*38 U*	74 U	100 U	87 U	72 U	88 U	43 U	45 U
Aroclor-1268	*38 U*	74 U	100 U	87 U	72 U	88 U	43 U	45 U

J The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.
U The analyte was not detected above the CRQL.
UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.
µg/kg micrograms per kilogram
ppb parts per billion
Italic Background sample
X.X Analytical Result > 3 x background value = observed contamination
Sources: EPA 2011 (CLP limits)

Table 15
Dioxins and Furans in Sources/Subsurface Soils
Units of pg/g (ppt)

Field Sample ID: Laboratory Sample ID: Location: Analytes	SSSO0102 L1080162-1 BACKGROUND Surface soil grab sample from mill property to the north (upwind) of potential source areas	WHO TEF Concentration	SSSO0514 L1081891-21 Subsurface soil/source grab sample from sludge pond 17	WHO TEF Concentration	SSSO0612 L1081891-22 Subsurface soil/source grab sample from sludge pond 17	WHO TEF Concentration	SSSO0716 L1080162-8 Subsurface soil/source grab sample from sludge pond 3	WHO TEF Concentration	SSSO0816 L1080162-10 Subsurface soil/source grab sample from sludge pond 3	WHO TEF Concentration
2,3,7,8-TCDD	*0.04 J*	0.04000 J	0.82	0.82000	1.47	1.47000	11.8	11.80000	11.6	11.60000
1,2,3,7,8-PeCDD	*0.38 J*	0.38000 J	0.38 U	0.19000 U	0.74 U	0.37000 U	0.92 J	0.92000 J	1.3 J	1.30000 J
1,2,3,4,7,8-HxCDD	*0.69 J*	0.06900 J	0.62 U	0.03100 U	0.9 U	0.04500 U	0.78 J	0.07800 J	1.8	0.18000
1,2,3,6,7,8-HxCDD	*1.54*	0.15400	8.89	0.88900	6.5	0.65000	11.5	1.15000	24.9	2.49000
1,2,3,7,8,9-HxCDD	*1.67*	0.16700	4.39	0.43900	3.14	0.31400	5.19	0.51900	12.1	1.21000
1,2,3,4,6,7,8-HpCDD	*40.6*	0.40600	24.6	0.24600	31	0.31000	81.7	0.81700	148	1.48000
OCDD	*310*	0.09300	124	0.03720	170	0.05100	939	0.28170	1260	0.37800
Total-TCDD	*0.17*	-	1.93	-	2.28	-	11.8	-	11.6	-
Total TCDD # Homologues	*2*	-	4	-	2	-	1	-	1	-
Total-PeCDD	*1.34*	-	0.38 U	-	1.23	-	4.83	-	2.6	-
Total PeCDD # Homologues	*4*	-	0	-	1	-	5	-	2	-
Total-HxCDD	*7.94*	-	52.9	-	41.3	-	63.3	-	157	-
Total HxCDD # Homologues	*3*	-	4	-	3	-	5	-	6	-
Total-HpCDD	*72.1*	-	46	-	57	-	152	-	259	-
Total HpCDD # Homologues	*2*	-	2	-	2	-	2	-	2	-
2,3,7,8-TCDF	*1.3 EMPC*	0.13000 EMPC	6.23	0.62300	11.8	1.18000	25.7	2.57000	33.8	3.38000
1,2,3,7,8-PeCDF	*0.68*	0.02040	0.61 J	0.01830 J	1.72	0.05160	0.96 J	0.02880 J	1.43 J	0.04290 J
2,3,4,7,8-PeCDF	*0.82*	0.24600	0.57 J	0.17100 J	2.34	0.70200	1.7	0.51000	1.77	0.53100
1,2,3,4,7,8-HxCDF	*1.5*	0.15000	0.35 U	0.01750 U	2.51	0.25100	1.06 J	0.10600 J	1.5 U	0.07500 U
1,2,3,6,7,8-HxCDF	*0.68*	0.06800	0.35 U	0.01750 U	2.15	0.21500	0.63 U	0.01800 U	1.5 U	0.07500 U
1,2,3,7,8,9-HxCDF	*0.31 J*	0.03100 J	0.44 U	0.02200 U	1.1 U	0.05500 U	0.43 U	0.02250 U	1.7 U	0.08500 U
2,3,4,6,7,8-HxCDF	*0.83*	0.08300	0.35 U	0.01750 U	0.94 U	0.04700 U	0.62 J	0.06200 J	1.6 U	0.08000 U
1,2,3,4,6,7,8-HpCDF	*10.9*	0.10900	0.83 UJ	0.00255 UJ	6.61	0.06610	8.5	0.08500	8	0.08000
1,2,3,4,7,8,9-HpCDF	*0.95*	0.00950	0.76 U	0.00380 U	2 J	0.02000	1.2 U	0.00600 U	2.3 U	0.00850 U
OCDF	*26.7*	0.00801	1.6 UJ	0.00011 UJ	13.3	0.00399	114	0.03420	41.9	0.01257
Total-TCDF	*30.5*	-	26.4	-	64.6	-	84.5	-	81.4	-
Total TCDF # Homologues	*21*	-	15	-	15	-	17	-	10	-
Total-PeCDF	*18.1*	-	4.13	-	23.9	-	12.4	-	8.75	-
Total PeCDF # Homologues	*14*	-	6	-	9	-	8	-	5	-
Total-HxCDF	*16.4*	-	1.44	-	13.8	-	11.3	-	3.3	-
Total HxCDF # Homologues	*8*	-	2	-	7	-	5	-	1	-
Total-HpCDF	*29.9*	-	1.35 U	-	6.6	-	45.4	-	28.8	-

Table 15
Dioxins and Furans in Sources/Subsurface Soils
Units of pg/g (ppt)

Field Sample ID: Laboratory Sample ID: Location: **Analytes**	**SSSO0102** **L1080162-1** **BACKGROUND** **Surface soil grab sample from mill property to the north (upwind) of potential source areas**	**WHO TEF Concentration**	**SSSO0514** **L1081891-21** **Subsurface soil/source grab sample from sludge pond 17**	**WHO TEF Concentration**	**SSSO0612** **L1081891-22** **Subsurface soil/source grab sample from sludge pond 17**	**WHO TEF Concentration**	**SSSO0716** **L1080162-8** **Subsurface soil/source grab sample from sludge pond 3**	**WHO TEF Concentration**	**SSSO0816** **L1080162-10** **Subsurface soil/source grab sample from sludge pond 3**	**WHO TEF Concentration**
Total HpCDF # Homologues	*3*	-	1	-	1	-	2	-	2	-
WHO TEQ	-	2.16391	-	3.54546	-	5.80169	-	19.00820	-	23.00797

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U The analyte was not detected above the CRQL.
UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.
RDSC Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration
CRSC Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration
pg/kg picograms per gram
ppt parts per trillion
Italic Background sample
X.X Analytical Result > 3 x background value = observed contamination
EMPC Indicates the presence of a partially coeluting interference that broadens the peak. The result is an estimated maximum possible concentration.
WHO TEQ World Health Organization Toxicity Equivalent
WHO TEF Conc. World Health Organization Toxicity Equivalence Factor Concentration
Sources: EPA 2011 (CLP limits); EPA 2011 (SCDM)

Table 15, continued
Dioxins and Furans in Sources/Subsurface Soils
Units of pg/g (ppt)

Field Sample ID: Laboratory Sample ID: Location: Analytes	SSSO0916 L1081891-24 Subsurface soil/source grab sample from sludge pond 5	WHO TEF Concentration	SSSO1110 L1081891-27 Subsurface soil/source grab sample from sludge pond 4	WHO TEF Concentration	SSSO1306 L1081891-31 Subsurface soil/source grab sample from emergency spill pond 8 dry cell	WHO TEF Concentration
2,3,7,8-TCDD	3.6 J	3.60000 J	13.6	13.60000	0.05 U	0.26500 U
1,2,3,7,8-PeCDD	1 J	1.00000 J	0.85 J	0.85000 J	0.12 U	0.12000 U
1,2,3,4,7,8-HxCDD	1.5 U	0.07500 U	0.73 J	0.07300 J	0.11 U	0.00550 U
1,2,3,6,7,8-HxCDD	7	0.70000	15.8	1.58000	0.21 J	0.02100 J
1,2,3,7,8,9-HxCDD	3.3	0.33000	8.01	0.80100	0.12 U	0.00550 U
1,2,3,4,6,7,8-HpCDD	46.7	0.46700	115	1.15000	8.46	0.08460
OCDD	432	0.12960	839	0.25170	77.8	0.02334
Total-TCDD	1.06	-	15.7	-	0.4	-
Total TCDD # Homologues	1	-	4	-	2	-
Total-PeCDD	0.91 U	-	4.59	-	0.12 U	-
Total PeCDD # Homologues	0	-	4	-	0	-
Total-HxCDD	10.3	-	88.6	-	1.37	-
Total HxCDD # Homologues	2	-	4	-	4	-
Total-HpCDD	86	-	208	-	18.1	-
Total HpCDD # Homologues	2	-	2	-	2	-
2,3,7,8-TCDF	18.7	1.87000	41.3	4.13000	0.13 J	0.01300 J
1,2,3,7,8-PeCDF	7.95	0.23850	1.3 J	0.03900 J	0.49 U	0.00735 U
2,3,4,7,8-PeCDF	79.2	23.76000	1.9	0.57000	0.44 U	0.07350 U
1,2,3,4,7,8-HxCDF	249	24.90000	1 J	0.10000 J	0.58 J	0.05800 J
1,2,3,6,7,8-HxCDF	139	13.90000	0.59 J	0.05900 J	0.37 J	0.03700 J
1,2,3,7,8,9-HxCDF	24.5	2.45000	0.45 U	0.02250 U	0.12 U	0.00600 U
2,3,4,6,7,8-HxCDF	43.2	4.32000	0.47 UJ	0.01950 UJ	0.14 UJ	0.00475 UJ
1,2,3,4,6,7,8-HpCDF	73	0.73000	4.2 J	0.04200 J	0.58 J	0.00580 J
1,2,3,4,7,8,9-HpCDF	7.3	0.07300	0.88 U	0.00440 U	0.23 U	0.00065 U
OCDF	18.1	0.00543	20.1	0.00603	1.8	-
Total-TCDF	148	-	101	-	1.6	-
Total TCDF # Homologues	16	-	15	-	6	-
Total-PeCDF	430	-	7.16	-	0.49 U	-
Total PeCDF # Homologues	9	-	3	-	0	-
Total-HxCDF	772	-	7.57	-	1.09	-
Total HxCDF # Homologues	10	-	5	-	3	-
Total-HpCDF	97.5	-	13.5	-	1.09	-

Table 15, continued
Dioxins and Furans in Sources/Subsurface Soils
Units of pg/g (ppt)

Field Sample ID: Laboratory Sample ID: Location: Analytes	SSSO0916 L1081891-24 Subsurface soil/source grab sample from sludge pond 5	WHO TEF Concentration	SSSO1110 L1081891-27 Subsurface soil/source grab sample from sludge pond 4	WHO TEF Concentration	SSSO1306 L1081891-31 Subsurface soil/source grab sample from emergency spill pond 8 dry cell	WHO TEF Concentration
Total HpCDF # Homologues	4	-	2	-	2	-
WHO TEQ	-	78.54853	-	23.29813	-	0.73099

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RDSC Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration
CRSC Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration
pg/kg picograms per gram
ppt parts per trillion
Italic Background sample
X.X Analytical Result > 3 x background value = observed contamination
EMPC Indicates the presence of a partially coeluting interference that broadens the peak. The result is an estimated maximum possible concentration.
WHO TEQ World Health Organization Toxicity Equivalent
WHO TEF Conc. World Health Organization Toxicity Equivalence Factor Concentration
Sources: EPA 2011 (CLP limits); EPA 2011 (SCDM)

TABLE 16
VOCs in Sources/Subsurface Soils
Units of µg/kg (ppb)

Field Sample ID: Laboratory Sample ID: Location: Analytes	SSSO0102 H30Q0 BACKGROUND Surface soil grab sample from mill property to the north (upwind) of potential source areas	SSSO0514 H30Q5 Subsurface soil/source grab sample from sludge pond 17	SSSO0612 H30Q7 Subsurface soil/source grab sample from sludge pond 17	SSSO0716 H30Q9 Subsurface soil/source grab sample from sludge pond 3	SSSO0816 H30R1 Subsurface soil/source grab sample from sludge pond 3	SSSO0916 H30R3 Subsurface soil/source grab sample from sludge pond 5	SSSO1110 H30R7 Subsurface soil/source grab sample from sludge pond 4	SSSO1306 H30S1 Subsurface soil/source grab sample from emergency spill pond 8 dry cell
Dichlorodifluoromethane	*5.9 U*	11 U	15 U	13 U	11 U	14 U	6.7 U	7 U
Chloromethane	*5.9 U*	11 U	15 U	13 U	11 U	14 U	6.7 U	7 U
Vinyl chloride	*5.9 U*	11 U	15 U	13 U	11 U	14 U	6.7 U	7 U
Bromomethane	*5.9 U*	11 U	15 U	13 U	11 U	14 U	6.7 U	7 U
Chloroethane	*5.9 U*	11 U	15 U	13 U	11 U	14 U	6.7 U	7 U
Trichlorofluoromethane	*5.9 U*	11 U	15 U	13 U	11 U	14 U	6.7 U	7 U
1,1-Dichloroethene	*5.9 U*	11 U	15 U	13 U	11 U	14 U	6.7 U	7 U
1,1,2-Trichloro-1,2,2-trifluoroethane	*5.9 U*	11 U	15 U	13 U	11 U	14 U	6.7 U	7 U
Acetone	*12 U*	120	62	100	110	120	110	23
Carbon disulfide	*5.9 U*	11 U	16	13 U	11 U	17	8.9	3.3 J
Methyl acetate	*5.9 U*	11 U	15 U	13 U	11 U	14 U	6.7 U	7 U
Methylene chloride	*5.9 U*	11 U	15 U	13 U	11 U	14 U	6.4 J	7 U
trans-1,2-Dichloroethene	*5.9 U*	11 U	15 U	13 U	11 U	14 U	6.7 U	7 U
Methyl tert-butyl ether	*5.9 U*	11 U	15 U	13 U	11 U	14 U	6.7 U	7 U
1,1-Dichloroethane	*5.9 U*	11 U	15 U	13 U	11 U	14 U	6.7 U	7 U
cis-1,2-Dichloroethene	*5.9 U*	11 U	15 U	13 U	11 U	14 U	6.7 U	7 U
2-Butanone	*12 U*	23 U	30 U	25 U	23 U	27 U	30	14 U
Bromochloromethane	*5.9 U*	11 U	15 U	13 U	11 U	14 U	6.7 U	7 U
Chloroform	*5.9 U*	11 U	15 U	13 U	11 U	5.9 J	6.1 J	7 U
1,1,1-Trichloroethane	*5.9 U*	11 U	15 U	13 U	11 U	14 U	6.7 U	7 U
Cyclohexane	*5.9 U*	11 U	15 U	13 U	11 U	14 U	6.7 U	7 U
Carbon tetrachloride	*5.9 U*	11 U	15 U	13 U	11 U	14 U	6.7 U	7 U
Benzene	*5.9 U*	11 U	15 U	13 U	11 U	14 U	6.7 U	7 U
1,2-Dichloroethane	*5.9 U*	11 U	15 U	13 U	11 U	14 U	6.7 U	7 U
1,4-Dioxane	*120 U*	230 U	300 U	250 U	230 U	270 U	130 U	140 U
Trichloroethene	*5.9 U*	11 U	15 U	13 U	11 U	14 U	6.7 U	7 U
Methylcyclohexane	*5.9 U*	11 U	15 U	13 U	11 U	14 U	6.7 U	7 U
1,2-Dichloropropane	*5.9 U*	11 U	15 U	13 U	11 U	14 U	6.7 U	7 U
Bromodichloromethane	*5.9 U*	11 U	15 U	13 U	11 U	14 U	6.7 U	7 U
cis-1,3-Dichloropropene	*5.9 U*	11 U	15 U	13 U	11 U	14 U	6.7 U	7 U

TABLE 16
VOCs in Sources/Subsurface Soils
Units of µg/kg (ppb)

Field Sample ID: Laboratory Sample ID: Location: Analytes	SSSO0102 H30Q0 BACKGROUND Surface soil grab sample from mill property to the north (upwind) of potential source areas	SSSO0514 H30Q5 Subsurface soil/source grab sample from sludge pond 17	SSSO0612 H30Q7 Subsurface soil/source grab sample from sludge pond 17	SSSO0716 H30Q9 Subsurface soil/source grab sample from sludge pond 3	SSSO0816 H30R1 Subsurface soil/source grab sample from sludge pond 3	SSSO0916 H30R3 Subsurface soil/source grab sample from sludge pond 5	SSSO1110 H30R7 Subsurface soil/source grab sample from sludge pond 4	SSSO1306 H30S1 Subsurface soil/source grab sample from emergency spill pond 8 dry cell
4-Methyl-2-pentanone	*12 U*	23 U	30 U	25 U	23 U	27 U	13 U	14 U
Toluene	*5.9 U*	11 U	15 U	13 U	11 U	14 U	6.7 U	7 U
trans-1,3-Dichloropropene	*5.9 U*	11 U	15 U	13 U	11 U	14 U	6.7 U	7 U
1,1,2-Trichloroethane	*5.9 U*	11 U	15 U	13 U	11 U	14 U	6.7 U	7 U
Tetrachloroethene	*5.9 U*	11 U	15 U	13 U	11 U	14 U	6.7 U	7 U
2-Hexanone	*12 U*	23 U	30 U	25 U	23 U	27 U	13 U	14 U
Dibromochloromethane	*5.9 U*	11 U	15 U	13 U	11 U	14 U	6.7 U	7 U
1,2-Dibromoethane	*5.9 U*	11 U	15 U	13 U	11 U	14 U	6.7 U	7 U
Chlorobenzene	*5.9 U*	11 U	15 U	13 U	11 U	14 U	6.7 U	7 U
Ethylbenzene	*5.9 U*	11 U	15 U	13 U	11 U	14 U	6.7 U	7 U
o-Xylene	*5.9 U*	11 U	15 U	13 U	11 U	14 U	6.7 U	7 U
m,p-Xylene	*5.9 U*	11 U	15 U	13 U	11 U	14 U	6.7 U	7 U
Styrene	*5.9 U*	11 U	15 U	13 U	11 U	14 U	6.7 U	7 U
Bromoform	*5.9 U*	11 U	15 U	13 U	11 U	14 U	6.7 U	7 U
Isopropylbenzene	*5.9 U*	11 U	15 U	13 U	10 J	36	6.7 U	7 U
1,1,2,2-Tetrachloroethane	*5.9 U*	11 U	15 U	13 U	11 U	14 U	6.7 U	7 U
1,3-Dichlorobenzene	*5.9 U*	11 U	15 U	13 U	11 U	14 U	6.7 U	7 U
1,4-Dichlorobenzene	*5.9 U*	11 U	15 U	13 U	11 U	14 U	6.7 U	7 U
1,2-Dichlorobenzene	*5.9 U*	11 U	15 U	13 U	11 U	14 U	6.7 U	7 U
1,2-Dibromo-3-chloropropane	*5.9 U*	11 U	15 U	13 U	11 U	14 U	6.7 U	7 U
1,2,4-Trichlorobenzene	*5.9 U*	11 U	15 U	13 U	11 U	14 U	6.7 U	7 U
1,2,3-Trichlorobenzene	*5.9 U*	11 U	15 U	13 U	11 U	14 U	6.7 U	7 U

J The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.
U The analyte was not detected above the CRQL.
UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.
µg/kg micrograms per kilogram
ppb parts per billion
Italic Background sample
X.X Analytical Result > 3 x background value = observed contamination
Sources: EPA 2011 (CLP limits)

Table 17
SVOCs in Sources/Subsurface Soils
Units of µg/kg (ppb)

Field Sample ID:	SSSO0102	SSSO0514	SSSO0612	SSSO0716	SSSO0816	SSSO0916	SSSO1110	SSSO1306
Laboratory Sample ID:	H30Q0	H30Q5	H30Q7	H30Q9	H30R1	H30R3	H30R7	H30S1
Location:	BACKGROUND Surface soil grab sample from mill property to the north (upwind) of potential source areas	Subsurface soil/source grab sample from sludge pond 17	Subsurface soil/source grab sample from sludge pond 17	Subsurface soil/source grab sample from sludge pond 3	Subsurface soil/source grab sample from sludge pond 3	Subsurface soil/source grab sample from sludge pond 5	Subsurface soil/source grab sample from sludge pond 4	Subsurface soil/source grab sample from emergency spill pond 8 dry cell
Analytes								
Benzaldehyde	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U
Phenol	*200 U*	100 J	520 U	440 U	370 U	2400	220 U	230 U
Bis(2-chloroethyl)ether	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U
2-Chlorophenol	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U
2-Methylphenol	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U
2,2'-Oxybis(1-chloropropane)	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U
Acetophenone	*200 U*	94 J	520 U	440 U	370 U	460 U	220 U	230 U
4-Methylphenol	*200 U*	290 J	2400	600	790	1800	1900	230 U
N-Nitroso-di-n-propylamine	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U
Hexachloroethane	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U
Nitrobenzene	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U
Isophorone	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U
2-Nitrophenol	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U
2,4-Dimethylphenol	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U
Bis(2-chloroethoxy)methane	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U
2,4-Dichlorophenol	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U
Naphthalene	*200 U*	95 J	190 J	110 J	110 J	460 U	110 J	230 U
4-Chloroaniline	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U
Hexachlorobutadiene	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U
Caprolactam	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U
4-Chloro-3-methylphenol	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U
2-Methylnaphthalene	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U
Hexachlorocyclopentadiene	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U
2,4,6-Trichlorophenol	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U
2,4,5-Trichlorophenol	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U
1,1'-Biphenyl	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U
2-Chloronaphthalene	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U
2-Nitroaniline	*380 U*	740 U	1000 U	860 U	720 U	890 U	430 U	450 U
Dimethylphthalate	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U
2,6-Dinitrotoluene	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U
Acenaphthylene	*200 U*	380 U	320 J	440 U	77 J	460 U	100 J	230 U
3-Nitroaniline	*380 U*	740 U	1000 U	860 U	720 U	890 U	430 U	450 U

Table 17
SVOCs in Sources/Subsurface Soils
Units of µg/kg (ppb)

Field Sample ID:	SSSO0102	SSSO0514	SSSO0612	SSSO0716	SSSO0816	SSSO0916	SSSO1110	SSSO1306
Laboratory Sample ID:	H30Q0	H30Q5	H30Q7	H30Q9	H30R1	H30R3	H30R7	H30S1
Location:	BACKGROUND Surface soil grab sample from mill property to the north (upwind) of potential source areas	Subsurface soil/source grab sample from sludge pond 17	Subsurface soil/source grab sample from sludge pond 17	Subsurface soil/source grab sample from sludge pond 3	Subsurface soil/source grab sample from sludge pond 3	Subsurface soil/source grab sample from sludge pond 5	Subsurface soil/source grab sample from sludge pond 4	Subsurface soil/source grab sample from emergency spill pond 8 dry cell
Analytes								
Acenaphthene	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U
2,4-Dinitrophenol	*380 U*	740 U	1000 U	860 U	720 U	890 U	430 U	450 U
4-Nitrophenol	*380 U*	740 U	1000 U	860 U	720 U	890 U	430 U	450 U
Dibenzofuran	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U
2,4-Dinitrotoluene	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U
Diethylphthalate	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U
Fluorene	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U
4-Chlorophenyl-phenylether	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U
4-Nitroaniline	*380 U*	740 U	1000 U	860 U	720 U	890 U	430 U	450 U
4,6-Dinitro-2-methylphenol	*380 U*	740 U	1000 U	860 U	720 U	890 U	430 U	450 U
N-Nitrosodiphenylamine	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U
1,2,4,5-Tetrachlorobenzene	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U
4-Bromophenyl-phenylether	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U
Hexachlorobenzene	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U
Atrazine	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U
Pentachlorophenol	*380 U*	740 U	1000 U	860 U	720 U	890 U	430 U	450 U
Phenanthrene	*200 U*	100 J	490 J	120 J	230 J	460 U	280	230 U
Anthracene	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U
Carbazole	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U
Di-n-butylphthalate	*61 J (610)*	1600	5900	740	1400	1500	620	230 U
Fluoranthene	*200 U*	130 J	520 U	93 J	120 J	460 U	260	230 U
Pyrene	*200 U*	380 U	520 U	110 J	160 J	460 U	250	230 U
Butylbenzylphthalate	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U
3,3'-Dichlorobenzidine	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U
Benzo(a)anthracene	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U
Chrysene	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U
Bis(2-ethylhexyl)phthalate	*81 J*	380 U	520 U	440 U	370 U	460 U	220 U	230 U
Di-n-octylphthalate	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U
Benzo(b)fluoranthene	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U
Benzo(k)fluoranthene	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U
Benzo(a)pyrene	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U
Indeno(1,2,3-cd)pyrene	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U

Table 17
SVOCs in Sources/Subsurface Soils
Units of µg/kg (ppb)

Field Sample ID:	SSSO0102	SSSO0514	SSSO0612	SSSO0716	SSSO0816	SSSO0916	SSSO1110	SSSO1306
Laboratory Sample ID:	H30Q0	H30Q5	H30Q7	H30Q9	H30R1	H30R3	H30R7	H30S1
Location:	BACKGROUND Surface soil grab sample from mill property to the north (upwind) of potential source areas	Subsurface soil/source grab sample from sludge pond 17	Subsurface soil/source grab sample from sludge pond 17	Subsurface soil/source grab sample from sludge pond 3	Subsurface soil/source grab sample from sludge pond 3	Subsurface soil/source grab sample from sludge pond 5	Subsurface soil/source grab sample from sludge pond 4	Subsurface soil/source grab sample from emergency spill pond 8 dry cell
Analytes								
Dibenzo(a,h)anthracene	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U
Benzo(g,h,i)perylene	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U
2,3,4,6-Tetrachlorophenol	*200 U*	380 U	520 U	440 U	370 U	460 U	220 U	230 U

J The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.
U The analyte was not detected above the CRQL.
UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.
µg/kg micrograms per kilogram
ppb parts per billion
Italic Background sample
X.X Analytical Result > 3 x background value = observed contamination
(23.4) Adjusted value- estimated results have been adjusted per HRS guidelines and are to be used for comparison to background values.
Sources: EPA 2011 (CLP limits)

Table 18
Total Metals and Asbestos in Sources/Subsurface Soils
Units of mg/kg (ppm)

Field Sample ID: Laboratory Sample ID: Location: Analytes	SSSO0102 H30Q0 BACKGROUND Surface soil grab sample from mill property to the north (upwind) of potential source areas	SSSO0514 H30Q5 Subsurface soil/source grab sample from sludge pond 17	SSSO0612 H30Q7 Subsurface soil/source grab sample from sludge pond 17	SSSO0716 H30Q9 Subsurface soil/source grab sample from sludge pond 3	SSSO0816 H30R1 Subsurface soil/source grab sample from sludge pond 3	SSSO0916 H30R3 Subsurface soil/source grab sample from sludge pond 5	SSSO1110 H30R7 Subsurface soil/source grab sample from sludge pond 4	SSSO1306 H30S1 Subsurface soil/source grab sample from emergency spill pond 8 dry cell
Asbestos Content (%)	*ND*	NA	NA	NA	NA	NA	NA	NA
Dilution Factor								
Aluminum	*10,300*	3,550	2,810	8,480	1,720	4,580	3,800	10,200
Antimony	*0.73 J+*	10.9 UJ	14.5 UJ	0.38 J+ (0.19)	14.2 J+ (7.2)	11.2 UJ	10.5 UJ	5.8 UJ
Arsenic	*8.5* ☆	3.0 J+ (1.7)	3.9 J+ (2.2)	2.0 UJ	2.4 UJ	3.3 J+ (1.9)	5.4 J+ (3.1)	2.0 J+ (1.1)
Barium	*232*	355 J (88.9)	317 J (79.4)	173	374	393 J (98.5)	475 J (119)	204 J (51.1)
Beryllium	*0.9 J+*	0.1 J (0.08)	1.2 UJ	0.79 J+ (0.62)	1.2 U	0.14 J (0.11)	0.12 J (0.09)	0.81 J (0.63)
Cadmium	*1.5 J+*	1.6 J+ (1.1)	1.8 J+ (1.3)	0.58 J+ (0.41)	0.61 J+ (0.43)	1.4 J+ (1.0)	2.6 J+ (1.8)	0.73 J+ (0.52)
Calcium	*6,540*	283,000 J (221,093)	126,000 J (98,438)	1,890	149,000	198,000 J (154,688)	183,000 J (142,969)	2,660 J (2,078)
Chromium	*11.0*	14.7 J (11.4)	14.8 J (11.5)	11.5	11.0	25.5 J (19.7)	18.7 J (14.5)	11.8 J (9.2)
Cobalt	*5.6 J (7.0)*	9.1 UJ	12.0 UJ	3.8 J (3.0)	0.16 J (0.13)	9.4 UJ	8.7 UJ	4.8 UJ
Copper	*71.7*	16.2 J (13.3)	30.0 J (24.6)	16.5	33.2	25.6 J (21.0)	21.0 J (17.2)	16.6 J (13.6)
Iron	*14,700*	2,600	1,520	12,500	1,320	3,380	2,720	12,700
Lead	*19.6*	6.7 UJ	7.7 UJ	7.9	7.2	10.2 J (7.1)	9.1 J (6.3)	9.2 J (6.4)
Magnesium	*6,250*	6,370	7,140	5,280	2,910	9,090	4,830	4,760
Manganese	*435*	870	1,220	89.7	514	717	1,180	104
Nickel	*9.8*	10.0 J (7.4)	11.4 J (8.4)	7.1	3.4 J (2.5)	25.9 J (19.2)	5.8 J (4.3)	8.3 J (6.1)
Potassium	*2,580*	912 UJ	1,200 UJ	1,890	518 J-	1,080 J (61.7)	871 UJ	1,800 J (102.9)
Selenium	*3.9 U*	6.4 UJ	0.69 J-	4.5 U	8.3 U	1.2 J-	0.99 J-	3.4 UJ
Silver	*1.1 UJ*	0.58 J-	1.4 J-	1.3 UJ	2.4 UJ	0.57 J-	0.49 J-	0.96 UJ
Sodium	*149 J (3789)*	4,400	4,100	1,010	3,980	9,420	4,280	1,240
Thallium	*2.8 U*	4.6 U	6.0 U	3.2 U	5.9 U	4.7 U	4.4 U	2.4 U
Vanadium	*15.9*	9.1 UJ	12 UJ	14.4	11.9 UJ	14.9 J (11.1)	8.7 UJ	15.5 J (11.6)
Zinc	*235*	107 J (71.3)	175 J (117)	41.1	90.8	128 J (85.3)	137 J (91.3)	37.1 J (24.7)

J The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.
J+ The associated numerical value is an estimated quantity but the result may be biased high.
J- The associated numerical value is an estimated quantity but the result may be biased low.
U The analyte was not detected above the CRQL.
UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.
ND Not detected.
NA Not analyzed.
RDSC Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration
CRSC Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration
mg/kg milligrams per kilogram
ppm parts per million
X.X Analytical Result > 3 x background value = observed contamination
Italic Background sample
(23.4) Adjusted value- estimated results have been adjusted per HRS guidelines and are to be used for comparison to background values

Table 19
PCBs in Surface Water
Units of µg/L

Field Sample ID: Laboratory Sample ID: Location: Analytes	Superfund Chemical Data Matrix (SCDM) Surface Water Pathway Environmental (Acute)	Superfund Chemical Data Matrix (SCDM) Surface Water Pathway Environmental (Chronic)	Montana DEQ Circular 7 Aquatic Life Standards (Acute)	Montana DEQ Circular 7 Aquatic Life Standards (Chronic)	Montana DEQ Circular 7 Human Health Standards (Surface Water)	SSSW01 H30T9 BACKGROUND Grab sample collected from O'Keefe Creek immediately upstream of the PPE from the landfarm area	SSSW02 H30W0 Grab sample collected from O'Keefe Creek immediately downstream of the PPE from the landfarm area	SSSW03 H30W1 Grab sample collected from O'Keefe Creek immediately downstream of sludge pond 17	SSSW04 H30W2 BACKGROUND Grab sample collected from the Clark Fork River immediately upstream of potential source areas of the mill	SSSW05 H30W3 Grab sample collected from the Clark Fork River adjacent to pond 2	SSSW06 H30W4 Grab sample collected from the Clark Fork River immediately downstream of outfall 1
Aroclor-1016	-	-	-	-	-	*1 UJ*	1 UJ	1 UJ	*1 UJ*	1 UJ	1 UJ
Aroclor-1221	-	-	-	-	-	*1 UJ*	1 UJ	1 UJ	*1 UJ*	1 UJ	1 UJ
Aroclor-1232	-	-	-	-	-	*1 UJ*	1 UJ	1 UJ	*1 UJ*	1 UJ	1 UJ
Aroclor-1242	-	-	-	-	-	*1 UJ*	1 UJ	1 UJ	*1 UJ*	1 UJ	1 UJ
Aroclor-1248	-	-	-	-	-	*1 UJ*	1 UJ	1 UJ	*1 UJ*	1 UJ	1 UJ
Aroclor-1254	-	-	-	-	-	*1 UJ*	1 UJ	1 UJ	*1 UJ*	1 UJ	1 UJ
Aroclor-1260	-	-	-	-	-	*1 UJ*	1 UJ	1 UJ	*1 UJ*	1 UJ	1 UJ
Aroclor-1262	-	-	-	-	-	*1 UJ*	1 UJ	1 UJ	*1 UJ*	1 UJ	1 UJ
Aroclor-1268	-	-	-	-	-	*1 UJ*	1 UJ	1 UJ	*1 UJ*	1 UJ	1 UJ

J The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.
U The analyte was not detected above the CRQL.
UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.
MDEQ Montana Department of Environmental Quality
RDSC Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration
CRSC Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration
µg/L microgram per liter
Italic Background sample
ppb parts per billion
X.X Analytical Result > 3 x background value = observed contamination
☆ Concentration is > benchmark

Sources: EPA 2011 (CLP limits and Low Concentration Detection Limits); MDEQ 2010 (Circular DEQ-7, Montana Numeric Water Quality Standards); EPA 2011 (SCDM)

Table 19, continued
PCBs in Surface Water
Units of µg/

Field Sample ID: Laboratory Sample ID: Location: Analytes	Superfund Chemical Data Matrix (SCDM) Surface Water Pathway Environmental (Acute)	Superfund Chemical Data Matrix (SCDM) Surface Water Pathway Environmental (Chronic)	Montana DEQ Circular 7 Aquatic Life Standards (Acute)	Montana DEQ Circular 7 Aquatic Life Standards (Chronic)	Montana DEQ Circular 7 Human Health Standards (Surface Water)	SSSW07 H30W5 Grab sample collected from the Clark Fork River immediately downstream of outfall 2	SSSW08 H30W6 Grab sample collected from Clark Fork River adjacent to pond 13	SSSW09 H30W7 Grab sample collected from the Clark Fork River immediately downstream of outfall 3	SSSW10 H30W8 Grab sample collected from the Clark Fork River immediately downstream of outfall 4	SSSW89 H30W9 Rinsate blank
Aroclor-1016	-	-	-	-	-	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Aroclor-1221	-	-	-	-	-	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Aroclor-1232	-	-	-	-	-	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Aroclor-1242	-	-	-	-	-	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Aroclor-1248	-	-	-	-	-	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Aroclor-1254	-	-	-	-	-	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Aroclor-1260	-	-	-	-	-	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Aroclor-1262	-	-	-	-	-	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Aroclor-1268	-	-	-	-	-	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ

J The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.
U The analyte was not detected above the CRQL.
UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.
MDEQ Montana Department of Environmental Quality
µg/L microgram per liter
Italic Background sample
ppb parts per billion
X.X Analytical Result > 3 x background value = observed contamination
☆ Concentration is > benchmark

Sources: EPA 2011 (CLP limits and Low Concentration Detection Limits); MDEQ 2010 (Circular DEQ-7, Montana Numeric Water Quality Standards); EPA 2011 (SCDM)

TABLE 20
Dioxins and Furans in Surface Water
Units of pg/L (ppq)

Field Sample ID: Laboratory Sample ID: Location: Analytes	Superfund Chemical Data Matrix (SCDM) Surface Water Pathway Environmental (Acute)	Superfund Chemical Data Matrix (SCDM) Surface Water Pathway Environmental (Chronic)	Montana DEQ Circular 7 Aquatic Life Standards (Acute)	Montana DEQ Circular 7 Aquatic Life Standards (Chronic)	Montana DEQ Circular 7 Human Health Standards (Surface Water)	SSSW01 L1080162-31 BACKGROUND Grab sample collected from O'Keefe Creek immediately upstream of the PPE from the landfarm area	WHO TEF Concentration	SSSW02 L1080162-32 Grab sample collected from O'Keefe Creek immediately downstream of the PPE from the landfarm area	WHO TEF Concentration	SSSW03 L1080162-33 Grab sample collected from O'Keefe Creek immediately downstream of sludge pond 17	WHO TEF Concentration
2,3,7,8-TCDD	-	-	-	-	-	*0.48 U*	0.24000 U	0.56 U	0.28000 U	0.52 U	0.26000 U
1,2,3,7,8-PeCDD	-	-	-	-	-	*0.52 U*	0.26000 U	0.55 U	0.27500 U	0.71 U	0.35500 U
1,2,3,4,7,8-HxCDD	-	-	-	-	-	*0.39 U*	0.01950 U	0.43 U	0.02150 U	0.46 U	0.02300 U
1,2,3,6,7,8-HxCDD	-	-	-	-	-	*0.49 J*	0.04900 J	0.44 U	0.02200 U	0.48 U	0.02400 U
1,2,3,7,8,9-HxCDD	-	-	-	-	-	*0.47 J*	0.04700 J	0.44 U	0.02200 U	0.47 U	0.02350 U
1,2,3,4,6,7,8-HpCDD	-	-	-	-	-	*1.79 U*	0.00210 U	1.69 U	0.00240 U	1.86 U	0.00190 U
OCDD	-	-	-	-	-	*8.7 U*	0.00018 U	7.86 U	0.00010 U	10 UJ	0.00004 UJ
Total-TCDD	-	-	-	-	-	*0.48 U*	-	0.56 U	-	0.52 U	-
Total TCDD # Homologues	-	-	-	-	-	*0*	-	0	-	0	-
Total-PeCDD	-	-	-	-	-	*0.52 U*	-	0.55 U	-	0.71 U	-
Total PeCDD # Homologues	-	-	-	-	-	*0*	-	0	-	0	-
Total-HxCDD	-	-	-	-	-	*0.47*	-	0.44 U	-	0.48 U	-
Total HxCDD # Homologues	-	-	-	-	-	*1*	-	0	-	0	-
Total-HpCDD	-	-	-	-	-	*3.24*	-	1.69	-	1.86	-
Total HpCDD # Homologues	-	-	-	-	-	*2*	-	1	-	1	-
2,3,7,8-TCDF	-	-	-	-	-	*0.39 U*	0.01950 U	0.44 U	0.02200 U	0.45 U	0.02250 U
1,2,3,7,8-PeCDF	-	-	-	-	-	*0.37 U*	0.00555 U	0.26 U	0.00390 U	0.33 U	0.00495 U
2,3,4,7,8-PeCDF	-	-	-	-	-	*0.45 UJ*	0.04650 UJ	0.48 UJ	0.03300 UJ	0.42 UJ	0.04650 UJ
1,2,3,4,7,8-HxCDF	-	-	-	-	-	*0.26 U*	0.01300 U	0.21 U	0.01050 U	0.35 U	0.01750 U
1,2,3,6,7,8-HxCDF	-	-	-	-	-	*0.26 U*	0.01300 U	0.26 J	0.01050 J	0.33 U	0.01650 U
1,2,3,7,8,9-HxCDF	-	-	-	-	-	*0.64 UJ*	0.01600 UJ	0.48 UJ	0.01900 UJ	0.42 U	0.02100 U
2,3,4,6,7,8-HxCDF	-	-	-	-	-	*0.36 J*	0.03600 J	0.22 U	0.01100 U	0.34 U	0.01700 U
1,2,3,4,6,7,8-HpCDF	-	-	-	-	-	*0.33 U*	0.00165 U	0.26 U	0.00130 U	0.22 U	0.00110 U
1,2,3,4,7,8,9-HpCDF	-	-	-	-	-	*0.55 UJ*	0.00235 UJ	0.38 U	0.00190 U	0.4 UJ	0.00160 UJ
OCDF	-	-	-	-	-	*1.6 UJ*	0.00006 UJ	0.99 UJ	0.00007 UJ	0.6 U	0.00009 U
Total-TCDF	-	-	-	-	-	*0.39 U*	-	0.44 U	-	0.45 U	-
Total TCDF # Homologues	-	-	-	-	-	*0*	-	0	-	0	-
Total-PeCDF	-	-	-	-	-	*0.37 U*	-	0.26 U	-	0.33 U	-
Total PeCDF # Homologues	-	-	-	-	-	*0*	-	0	-	0	-
Total-HxCDF	-	-	-	-	-	*0.36 U*	-	0.26 U	-	0.42 U	-
Total HxCDF # Homologues	-	-	-	-	-	*1*	-	0	-	0	-
Total-HpCDF	-	-	-	-	-	*0.47 U*	-	0.38 U	-	0.32 U	-

TABLE 20
Dioxins and Furans in Surface Water
Units of pg/L (ppq)

Field Sample ID: Laboratory Sample ID: Location: Analytes	Superfund Chemical Data Matrix (SCDM) Surface Water Pathway Environmental (Acute)	Superfund Chemical Data Matrix (SCDM) Surface Water Pathway Environmental (Chronic)	Montana DEQ Circular 7 Aquatic Life Standards (Acute)	Montana DEQ Circular 7 Aquatic Life Standards (Chronic)	Montana DEQ Circular 7 Human Health Standards (Surface Water)	SSSW01 L1080162-31 BACKGROUND Grab sample collected from O'Keefe Creek immediately upstream of the PPE from the landfarm area	WHO TEF Concentration	SSSW02 L1080162-32 Grab sample collected from O'Keefe Creek immediately downstream of the PPE from the landfarm area	WHO TEF Concentration	SSSW03 L1080162-33 Grab sample collected from O'Keefe Creek immediately downstream of sludge pond 17	WHO TEF Concentration
Total HpCDF # Homologues	-	-	-	-	-	*0*	-	0	-	0	-
WHO TEQ	-	-	-	-	0.05	-	0.77139 ☆	-	0.73617 ☆	-	0.83618 ☆

J The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.
U The analyte was not detected above the CRQL.
MDEQ Montana Department of Environmental Quality
RDSC Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration
CRSC Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration
WHO TEQ World Health Organization Toxicity Equivalent
WHO TEF Conc. World Health Organization Toxicity Equivalence Factor Concentration
pg/L pico-gram per liter
ppq parts per quadrillion
☆ Concentration is > benchmark
Italic Background sample
X.X Analytical Result > 3 x background value = observed contamination
Sources: EPA 2011 (CLP limits and Low Concentration Detection Limits); MDEQ 2010 (Circular DEQ-7, Montana Numeric Water Quality Standards); EPA 2011 (SCDM)

TABLE 20, continued
Dioxins and Furans in Surface Water
Units of pg/L (ppq)

Field Sample ID: Laboratory Sample ID: Location: Analytes	Superfund Chemical Data Matrix (SCDM) Surface Water Pathway Environmental (Acute)	Superfund Chemical Data Matrix (SCDM) Surface Water Pathway Environmental (Chronic)	Montana DEQ Circular 7 Aquatic Life Standards (Acute)	Montana DEQ Circular 7 Aquatic Life Standards (Chronic)	Montana DEQ Circular 7 Human Health Standards (Surface Water)	SSSW04 L1080162-34 BACKGROUND Grab sample collected from the Clark Fork River immediately upstream of potential source areas of the mill	WHO TEF Concentration	SSSW05 L1080162-35 Grab sample collected from the Clark Fork River adjacent to pond 2	WHO TEF Concentration	SSSW06 L1080162-36 Grab sample collected from the Clark Fork River immediately downstream of outfall 1	WHO TEF Concentration
2,3,7,8-TCDD	-	-	-	-	-	*1.1 UJ*	0.55000 UJ	0.97 UJ	0.48500 UJ	0.49 U	0.24500 U
1,2,3,7,8-PeCDD	-	-	-	-	-	*0.61 U*	0.30500 U	0.71 U	0.35500 U	0.65 U	0.32500 U
1,2,3,4,7,8-HxCDD	-	-	-	-	-	*0.72 U*	0.03600 U	0.59 U	0.02950 U	0.34 U	0.01700 U
1,2,3,6,7,8-HxCDD	-	-	-	-	-	*0.76 U*	0.03800 U	0.63 U	0.03150 U	0.36 U	0.01800 U
1,2,3,7,8,9-HxCDD	-	-	-	-	-	*0.75 U*	0.03750 U	0.61 U	0.03050 U	0.36 U	0.01800 U
1,2,3,4,6,7,8-HpCDD	-	-	-	-	-	*0.78 U*	0.00180 U	0.65 UJ	0.00195 UJ	0.43 U	0.00215 U
OCDD	-	-	-	-	-	*2.99 U*	0.00011 U	3.2 U	0.00017 U	2.3 UJ	0.00013 UJ
Total-TCDD	-	-	-	-	-	*1.1 UJ*	-	0.97 UJ	-	0.49 U	-
Total TCDD # Homologues	-	-	-	-	-	*0*	-	0	-	0	-
Total-PeCDD	-	-	-	-	-	*0.61 U*	-	0.71 U	-	0.65 U	-
Total PeCDD # Homologues	-	-	-	-	-	*0*	-	0	-	0	-
Total-HxCDD	-	-	-	-	-	*0.76 U*	-	1.23	-	0.36 U	-
Total HxCDD # Homologues	-	-	-	-	-	*0*	-	2	-	0	-
Total-HpCDD	-	-	-	-	-	*0.78*	-	0.39 U	-	0.43 U	-
Total HpCDD # Homologues	-	-	-	-	-	*1*	-	0	-	0	-
2,3,7,8-TCDF	-	-	-	-	-	*0.47 U*	0.02350 U	0.41 U	0.02050 U	0.46 U	0.02300 U
1,2,3,7,8-PeCDF	-	-	-	-	-	*0.35 U*	0.00525 U	0.47 U	0.00705 U	0.34 U	0.00510 U
2,3,4,7,8-PeCDF	-	-	-	-	-	*0.32 U*	0.04800 U	0.46 U	0.06900 U	0.31 U	0.04650 U
1,2,3,4,7,8-HxCDF	-	-	-	-	-	*0.21 U*	0.01050 U	0.25 U	0.01250 U	0.23 U	0.01150 U
1,2,3,6,7,8-HxCDF	-	-	-	-	-	*0.2 U*	0.01000 U	0.24 U	0.01200 U	0.22 U	0.01100 U
1,2,3,7,8,9-HxCDF	-	-	-	-	-	*0.27 U*	0.01350 U	0.34 U	0.01700 U	0.27 U	0.01350 U
2,3,4,6,7,8-HxCDF	-	-	-	-	-	*0.22 U*	0.01100 U	0.28 U	0.01400 U	0.23 U	0.01150 U
1,2,3,4,6,7,8-HpCDF	-	-	-	-	-	*0.19 UJ*	0.00080 UJ	0.23 U	0.00140 U	0.28 U	0.00140 U
1,2,3,4,7,8,9-HpCDF	-	-	-	-	-	*0.63 U*	0.00120 U	0.33 U	0.00170 U	0.41 U	0.00205 U
OCDF	-	-	-	-	-	*0.46 U*	0.00007 U	0.64 U	0.00010 U	0.65 U	0.00010 U
Total-TCDF	-	-	-	-	-	*0.47 U*	-	0.41 U	-	0.46 U	-
Total TCDF # Homologues	-	-	-	-	-	*0*	-	0	-	0	-
Total-PeCDF	-	-	-	-	-	*0.35 U*	-	0.47 U	-	0.34 U	-
Total PeCDF # Homologues	-	-	-	-	-	*0*	-	0	-	0	-
Total-HxCDF	-	-	-	-	-	*0.27 U*	-	0.34 U	-	0.27 U	-
Total HxCDF # Homologues	-	-	-	-	-	*0*	-	0	-	0	-
Total-HpCDF	-	-	-	-	-	*0.63 U*	-	0.33 U	-	0.41 U	-

TABLE 20, continued
Dioxins and Furans in Surface Water
Units of pg/L (ppq)

Field Sample ID: Laboratory Sample ID: Location: Analytes	Superfund Chemical Data Matrix (SCDM) Surface Water Pathway Environmental (Acute)	Superfund Chemical Data Matrix (SCDM) Surface Water Pathway Environmental (Chronic)	Montana DEQ Circular 7 Aquatic Life Standards (Acute)	Montana DEQ Circular 7 Aquatic Life Standards (Chronic)	Montana DEQ Circular 7 Human Health Standards (Surface Water)	SSSW04 L1080162-34 BACKGROUND Grab sample collected from the Clark Fork River immediately upstream of potential source areas of the mill	WHO TEF Concentration	SSSW05 L1080162-35 Grab sample collected from the Clark Fork River adjacent to pond 2	WHO TEF Concentration	SSSW06 L1080162-36 Grab sample collected from the Clark Fork River immediately downstream of outfall 1	WHO TEF Concentration
Total HpCDF # Homologues	-	-	-	-	-	*1*	-	0	-	0	-
WHO TEQ	-	-	-	-	0.05	-	1.09223 ☆	-	1.08886 ☆	-	0.75093 ☆

J The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.
U The analyte was not detected above the CRQL.
MDEQ Montana Department of Environmental Quality
RDSC Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration
CRSC Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration
WHO TEQ World Health Organization Toxicity Equivalent
WHO TEF Conc. World Health Organization Toxicity Equivalence Factor Concentration
pg/L pico-gram per liter
ppq parts per quadrillion
☆ Concentration is > benchmark
Italic Background sample
X.X Analytical Result > 3 x background value = observed contamination
Sources: EPA 2011 (CLP limits and Low Concentration Detection Limits); MDEQ 2010 (Circular DEQ-7, Montana Numeric Water Quality Standards); EPA 2011 (SCDM)

TABLE 20, continued
Dioxins and Furans in Surface Water
Units of pg/L (ppq)

Field Sample ID: Laboratory Sample ID: Location: Analytes	Superfund Chemical Data Matrix (SCDM) Surface Water Pathway Environmental (Acute)	Superfund Chemical Data Matrix (SCDM) Surface Water Pathway Environmental (Chronic)	Montana DEQ Circular 7 Aquatic Life Standards (Acute)	Montana DEQ Circular 7 Aquatic Life Standards (Chronic)	Montana DEQ Circular 7 Human Health Standards (Surface Water)	SSSW07 L1080162-37 Grab sample collected from the Clark Fork River immediately downstream of outfall 2	WHO TEF Concentration	SSSW08 L1080162-38 Grab sample collected from Clark Fork River adjacent to pond 13	WHO TEF Concentration	SSSW09 L1080162-39 Grab sample collected from the Clark Fork River immediately downstream of outfall 3	WHO TEF Concentration
2,3,7,8-TCDD	-	-	-	-	-	0.42 U	0.21000 U	0.58 U	0.29000 U	0.48 U	0.24000 U
1,2,3,7,8-PeCDD	-	-	-	-	-	0.66 U	0.33000 U	0.56 U	0.28000 U	0.66 U	0.33000 U
1,2,3,4,7,8-HxCDD	-	-	-	-	-	0.19 U	0.00950 U	0.55 U	0.02750 U	0.36 U	0.01800 U
1,2,3,6,7,8-HxCDD	-	-	-	-	-	0.2 U	0.01000 U	0.55 U	0.02750 U	0.37 U	0.01850 U
1,2,3,7,8,9-HxCDD	-	-	-	-	-	0.2 U	0.01000 U	0.55 U	0.02750 U	0.37 U	0.01850 U
1,2,3,4,6,7,8-HpCDD	-	-	-	-	-	0.55 UJ	0.00215 UJ	1.02 U	0.00215 U	0.78 UJ	0.20670 U
OCDD	-	-	-	-	-	2.54 U	0.00007 U	2.9 UJ	0.00007 UJ	1.9 UJ	0.00017 UJ
Total-TCDD	-	-	-	-	-	0.42 U	-	0.58 U	-	0.48 U	-
Total TCDD # Homologues	-	-	-	-	-	0	-	0	-	0	-
Total-PeCDD	-	-	-	-	-	0.66 U	-	0.56 U	-	0.66 U	-
Total PeCDD # Homologues	-	-	-	-	-	0	-	0	-	0	-
Total-HxCDD	-	-	-	-	-	0.2 U	-	0.55 U	-	0.37 U	-
Total HxCDD # Homologues	-	-	-	-	-	0	-	0	-	0	-
Total-HpCDD	-	-	-	-	-	0.43 U	-	1.02	-	0.53 U	-
Total HpCDD # Homologues	-	-	-	-	-	0	-	1	-	0	-
2,3,7,8-TCDF	-	-	-	-	-	0.3 U	0.01500 U	0.51 U	0.00255 U	0.46 U	0.02300 U
1,2,3,7,8-PeCDF	-	-	-	-	-	0.29 U	0.00435 U	0.36 U	0.00540 U	0.31 U	0.00465 U
2,3,4,7,8-PeCDF	-	-	-	-	-	0.26 U	0.03900 U	0.3 U	0.04500 U	0.28 U	0.04200 U
1,2,3,4,7,8-HxCDF	-	-	-	-	-	0.18 U	0.00900 U	0.25 U	0.01250 U	0.21 U	0.01050 U
1,2,3,6,7,8-HxCDF	-	-	-	-	-	0.18 U	0.00900 U	0.26 U	0.01300 U	0.21 U	0.01050 U
1,2,3,7,8,9-HxCDF	-	-	-	-	-	0.23 U	0.01150 U	0.31 U	0.01550 U	0.27 U	0.01350 U
2,3,4,6,7,8-HxCDF	-	-	-	-	-	0.19 U	0.00950 U	0.25 U	0.01250 U	0.22 U	0.01100 U
1,2,3,4,6,7,8-HpCDF	-	-	-	-	-	0.23 U	0.00115 U	0.17 U	0.00155 U	0.3 U	0.00150 U
1,2,3,4,7,8,9-HpCDF	-	-	-	-	-	0.34 U	0.00170 U	0.26 U	0.00130 U	0.41 U	0.00205 U
OCDF	-	-	-	-	-	0.51 U	0.00008 U	0.65 U	0.00010 U	0.8 U	0.00012 U
Total-TCDF	-	-	-	-	-	0.3 U	-	0.51 U	-	0.46 U	-
Total TCDF # Homologues	-	-	-	-	-	0	-	0	-	0	-
Total-PeCDF	-	-	-	-	-	0.29 U	-	0.36 U	-	0.31 U	-
Total PeCDF # Homologues	-	-	-	-	-	0	-	0	-	0	-
Total-HxCDF	-	-	-	-	-	0.23 U	-	0.31 U	-	0.27 U	-
Total HxCDF # Homologues	-	-	-	-	-	0	-	0	-	0	-
Total-HpCDF	-	-	-	-	-	0.34 U	-	0.26 U	-	0.41 U	-

TABLE 20, continued
Dioxins and Furans in Surface Water
Units of pg/L (ppq)

Field Sample ID: Laboratory Sample ID: Location: Analytes	Superfund Chemical Data Matrix (SCDM) Surface Water Pathway Environmental (Acute)	Superfund Chemical Data Matrix (SCDM) Surface Water Pathway Environmental (Chronic)	Montana DEQ Circular 7 Aquatic Life Standards (Acute)	Montana DEQ Circular 7 Aquatic Life Standards (Chronic)	Montana DEQ Circular 7 Human Health Standards (Surface Water)	SSSW07 L1080162-37 Grab sample collected from the Clark Fork River immediately downstream of outfall 2	WHO TEF Concentration	SSSW08 L1080162-38 Grab sample collected from Clark Fork River adjacent to pond 13	WHO TEF Concentration	SSSW09 L1080162-39 Grab sample collected from the Clark Fork River immediately downstream of outfall 3	WHO TEF Concentration
Total HpCDF # Homologues	-	-	-	-	-	0	-	0	-	0	-
WHO TEQ					0.05		0.67200 ☆		0.76412 ☆		0.95069 ☆

J The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.
☆ Concentration is > benchmark
U The analyte was not detected above the CRQL.
MDEQ Montana Department of Environmental Quality
RDSC Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration
CRSC Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration
WHO TEQ World Health Organization Toxicity Equivalent
WHO TEF Conc. World Health Organization Toxicity Equivalence Factor Concentration
pg/L pico-gram per liter
ppq parts per quadrillion
☆ Concentration is > benchmark
Italic Background sample
X.X Analytical Result > 3 x background value = observed contamination
Sources: EPA 2011 (CLP limits and Low Concentration Detection Limits); MDEQ 2010 (Circular DEQ-7, Montana Numeric Water Quality Standards); EPA 2011 (SCDM)

TABLE 20, continued
Dioxins and Furans in Surface Water
Units of pg/L (ppq)

Field Sample ID: Laboratory Sample ID: Location: Analytes	Superfund Chemical Data Matrix (SCDM) Surface Water Pathway Environmental (Acute)	Superfund Chemical Data Matrix (SCDM) Surface Water Pathway Environmental (Chronic)	Montana DEQ Circular 7 Aquatic Life Standards (Acute)	Montana DEQ Circular 7 Aquatic Life Standards (Chronic)	Montana DEQ Circular 7 Human Health Standards (Surface Water)	SSSW10 L1080162-40 Grab sample collected from the Clark Fork River immediately downstream of outfall 4	WHO TEF Concentration	SSSW89 L1081891-20 Rinsate blank	WHO TEF Concentration
2,3,7,8-TCDD	-	-	-	-	-	0.7 U	0.35000 U	0.9 U	0.45000 U
1,2,3,7,8-PeCDD	-	-	-	-	-	0.77 U	0.38500 U	0.84 U	0.42000 U
1,2,3,4,7,8-HxCDD	-	-	-	-	-	0.56 U	0.02800 U	0.4 U	0.02000 U
1,2,3,6,7,8-HxCDD	-	-	-	-	-	0.57 U	0.02850 U	0.42 U	0.02100 U
1,2,3,7,8,9-HxCDD	-	-	-	-	-	0.57 U	0.02850 U	0.41 U	0.02050 U
1,2,3,4,6,7,8-HpCDD	-	-	-	-	-	0.54 UJ	0.00270 UJ	0.82 U	0.00410 U
OCDD	-	-	-	-	-	0.9 UJ	0.00011 UJ	1.5 U	0.00023 U
Total-TCDD	-	-	-	-	-	0.7 U	-	0.9 U	-
Total TCDD # Homologues	-	-	-	-	-	0	-	0	-
Total-PeCDD	-	-	-	-	-	0.77 U	-	0.84 U	-
Total PeCDD # Homologues	-	-	-	-	-	0	-	0	-
Total-HxCDD	-	-	-	-	-	0.57 U	-	0.42 U	-
Total HxCDD # Homologues	-	-	-	-	-	0	-	0	-
Total-HpCDD	-	-	-	-	-	0.54 U	-	0.82 U	-
Total HpCDD # Homologues	-	-	-	-	-	0	-	0	-
2,3,7,8-TCDF	-	-	-	-	-	0.37 U	0.01850 U	0.61 U	0.03050 U
1,2,3,7,8-PeCDF	-	-	-	-	-	0.33 U	0.00495 U	0.35 U	0.00525 U
2,3,4,7,8-PeCDF	-	-	-	-	-	0.29 U	0.04350 U	0.33 U	0.04950 U
1,2,3,4,7,8-HxCDF	-	-	-	-	-	0.25 U	0.01250 U	0.3 U	0.01500 U
1,2,3,6,7,8-HxCDF	-	-	-	-	-	0.24 U	0.01200 U	0.31 U	0.01550 U
1,2,3,7,8,9-HxCDF	-	-	-	-	-	0.31 U	0.01550 U	0.41 U	0.02050 U
2,3,4,6,7,8-HxCDF	-	-	-	-	-	0.25 U	0.01250 U	0.35 U	0.01750 U
1,2,3,4,6,7,8-HpCDF	-	-	-	-	-	0.22 U	0.00110 U	0.51 U	0.00255 U
1,2,3,4,7,8,9-HpCDF	-	-	-	-	-	0.3 U	0.00150 U	0.82 U	0.00410 U
OCDF	-	-	-	-	-	0.47 U	0.00007 U	1.1 U	0.00017 U
Total-TCDF	-	-	-	-	-	0.37 U	-	0.61 U	-
Total TCDF # Homologues	-	-	-	-	-	0	-	0	-
Total-PeCDF	-	-	-	-	-	0.33 U	-	0.35 U	-
Total PeCDF # Homologues	-	-	-	-	-	0	-	0	-
Total-HxCDF	-	-	-	-	-	0.31 U	-	0.41 U	-
Total HxCDF # Homologues	-	-	-	-	-	0	-	0	-
Total-HpCDF	-	-	-	-	-	0.3 U	-	0.82 U	-

TABLE 20, continued
Dioxins and Furans in Surface Water
Units of pg/L (ppq)

Field Sample ID: Laboratory Sample ID: Location: Analytes	Superfund Chemical Data Matrix (SCDM) Surface Water Pathway Environmental (Acute)	Superfund Chemical Data Matrix (SCDM) Surface Water Pathway Environmental (Chronic)	Montana DEQ Circular 7 Aquatic Life Standards (Acute)	Montana DEQ Circular 7 Aquatic Life Standards (Chronic)	Montana DEQ Circular 7 Human Health Standards (Surface Water)	SSSW10 L1080162-40 Grab sample collected from the Clark Fork River immediately downstream of outfall 4	WHO TEF Concentration	SSSW89 L1081891-20 Rinsate blank	WHO TEF Concentration
Total HpCDF # Homologues	-	-	-	-	-	0	-	0	-
WHO TEQ					0.05	-	0.94493 ☆	-	1.09639 ☆

J The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.
MDEQ Montana Department of Environmental Quality
RDSC Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration
CRSC Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration
WHO TEQ World Health Organization Toxicity Equivalent
WHO TEF Conc. World Health Organization Toxicity Equivalence Factor Concentration
pg/L pico-gram per liter
ppq parts per quadrillion
☆ Concentration is > benchmark
Italic Background sample
X.X Analytical Result > 3 x background value = observed contamination
Sources: EPA 2011 (CLP limits and Low Concentration Detection Limits); MDEQ 2010 (Circular DEQ-7, Montana Numeric Water Quality Standards); EPA 2011 (SCDM)

TABLE 21
VOCs in Surface Water
Units of µg/L (ppb)

Field Sample ID: Laboratory Sample ID: Location: Analytes	Superfund Chemical Data Matrix (SCDM) Surface Water Pathway Environmental (Acute)	Superfund Chemical Data Matrix (SCDM) Surface Water Pathway Environmental (Chronic)	Montana DEQ Circular 7 Aquatic Life Standards (Acute)	Montana DEQ Circular 7 Aquatic Life Standards (Chronic)	Montana DEQ Circular 7 Human Health Standards (Surface Water)	SSSW01 H30T9 BACKGROUND Grab sample collected from O'Keefe Creek immediately upstream of the PPE from the landfarm area	SSSW02 H30W0 Grab sample collected from O'Keefe Creek immediately downstream of the PPE from the landfarm area	SSSW03 H30W1 Grab sample collected from O'Keefe Creek immediately downstream of sludge pond 17	SSSW04 H30W2 BACKGROUND Grab sample collected from the Clark Fork River immediately upstream of potential source areas of the mill	SSSW05 H30W3 Grab sample collected from the Clark Fork River adjacent to pond 2	SSSW06 H30W4 Grab sample collected from the Clark Fork River immediately downstream of outfall 1	SSSW07 H30W5 Grab sample collected from the Clark Fork River immediately downstream of outfall 2
Dichlorodifluoromethane	-	-	-	-	1,000	*0.5 U*	0.5 U	0.5 U	*0.5 U*	0.5 U	0.5 U	0.5 U
Chloromethane	-	-	-	-	-	*0.5 U*	0.5 U	0.5 U	*0.5 U*	0.5 U	0.5 U	0.5 U
Vinyl chloride	-	-	-	-	0.25	*0.5 U*	0.5 U	0.5 U	*0.5 U*	0.5 U	0.5 U	0.5 U
Bromomethane	-	-	-	-	-	*0.5 U*	0.5 U	0.5 U	*0.5 U*	0.5 U	0.5 U	0.5 U
Chloroethane	-	-	-	-	-	*0.5 U*	0.5 U	0.5 U	*0.5 U*	0.5 U	0.5 U	0.5 U
Trichlorofluoromethane	-	-	-	-	10,000	*0.5 U*	0.5 U	0.5 U	*0.5 U*	0.5 U	0.5 U	0.5 U
1,1-Dichloroethene	-	-	-	-	0.57	*0.5 U*	0.5 U	0.5 U	*0.5 U*	0.5 U	0.5 U	0.5 U
1,1,2-Trichloro-1,2,2-trifluoroethane	-	-	-	-	-	*0.5 U*	0.5 U	0.5 U	*0.5 U*	0.5 U	0.5 U	0.5 U
Acetone	-	-	-	-	-	*5 U*	5 U	5 U	*5 U*	5 U	5 U	5 U
Carbon disulfide	-	-	-	-	-	*0.5 U*	0.5 U	0.5 U	*0.5 U*	0.5 U	0.5 U	0.5 U
Methyl acetate	-	-	-	-	-	*0.5 U*	0.5 U	0.5 U	*0.5 U*	0.5 U	0.5 U	0.5 U
Methylene chloride	-	-	-	-	5	*0.5 U*	0.5 U	0.5 U	*0.5 U*	0.5 U	0.5 U	0.5 U
trans-1,2-Dichloroethene	-	-	-	-	-	*0.5 U*	0.5 U	0.5 U	*0.5 U*	0.5 U	0.5 U	0.5 U
Methyl tert-butyl ether	-	-	-	-	30	*0.5 U*	0.5 U	0.5 U	*0.5 U*	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	-	-	-	-	-	*0.5 U*	0.5 U	0.5 U	*0.5 U*	0.5 U	0.5 U	0.5 U
cis-1,2-Dichloroethene	-	-	-	-	-	*0.5 U*	0.5 U	0.5 U	*0.5 U*	0.5 U	0.5 U	0.5 U
Methyl ethyl ketone (2-Butanone)	-	-	-	-	-	*5 U*	5 U	5 U	*5 U*	5 U	5 U	5 U
Bromochloromethane	-	-	-	-	-	*0.5 U*	0.5 U	0.5 U	*0.5 U*	0.5 U	0.5 U	0.5 U
Chloroform	-	-	-	-	57	*0.5 U*	0.5 U	0.5 U	*0.5 U*	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	-	-	-	-	200	*0.5 U*	0.5 U	0.5 U	*0.5 U*	0.5 U	0.5 U	0.5 U
Cyclohexane	-	-	-	-	-	*0.5 U*	0.5 U	0.5 U	*0.5 U*	0.5 U	0.5 U	0.5 U
Carbon tetrachloride	-	-	-	-	2.3	*0.5 U*	0.5 U	0.5 U	*0.5 U*	0.5 U	0.5 U	0.5 U
Benzene	-	-	-	-	5	*0.5 U*	0.5 U	0.5 U	*0.5 U*	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	-	-	-	-	3.8	*0.5 U*	0.5 U	0.5 U	*0.5 U*	0.5 U	0.5 U	0.5 U
Trichloroethene	-	-	-	-	5	*0.5 U*	0.5 U	0.5 U	*0.5 U*	0.5 U	0.5 U	0.5 U
Methylcyclohexane	-	-	-	-	-	*0.5 U*	0.5 U	0.5 U	*0.5 U*	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	-	-	-	-	5	*0.5 U*	0.5 U	0.5 U	*0.5 U*	0.5 U	0.5 U	0.5 U
Bromodichloromethane	-	-	-	-	5.5	*0.5 U*	0.5 U	0.5 U	*0.5 U*	0.5 U	0.5 U	0.5 U
cis-1,3-Dichloropropene	-	-	-	-	-	*0.5 U*	0.5 U	0.5 U	*0.5 U*	0.5 U	0.5 U	0.5 U
4-Methyl-2-pentanone (MIBK)	-	-	-	-	-	*5 U*	5 U	5 U	*5 U*	5 U	5 U	5 U
Toluene	-	-	-	-	1,000	*0.5 U*	0.5 U	0.5 U	*0.5 U*	0.5 U	0.5 U	0.5 U
trans-1,3-Dichloropropene	-	-	-	-	-	*0.5 U*	0.5 U	0.5 U	*0.5 U*	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	-	-	-	-	3	*0.5 U*	0.5 U	0.5 U	*0.5 U*	0.5 U	0.5 U	0.5 U

TABLE 21
VOCs in Surface Water
Units of µg/L (ppb)

Field Sample ID: Laboratory Sample ID: Location: Analytes	Superfund Chemical Data Matrix (SCDM) Surface Water Pathway Environmental (Acute)	Superfund Chemical Data Matrix (SCDM) Surface Water Pathway Environmental (Chronic)	Montana DEQ Circular 7 Aquatic Life Standards (Acute)	Montana DEQ Circular 7 Aquatic Life Standards (Chronic)	Montana DEQ Circular 7 Human Health Standards (Surface Water)	SSSW01 H30T9 BACKGROUND Grab sample collected from O'Keefe Creek immediately upstream of the PPE from the landfarm area	SSSW02 H30W0 Grab sample collected from O'Keefe Creek immediately downstream of the PPE from the landfarm area	SSSW03 H30W1 Grab sample collected from O'Keefe Creek immediately downstream of sludge pond 17	SSSW04 H30W2 BACKGROUND Grab sample collected from the Clark Fork River immediately upstream of potential source areas of the mill	SSSW05 H30W3 Grab sample collected from the Clark Fork River adjacent to pond 2	SSSW06 H30W4 Grab sample collected from the Clark Fork River immediately downstream of outfall 1	SSSW07 H30W5 Grab sample collected from the Clark Fork River immediately downstream of outfall 2
Tetrachloroethene	-	-	-	-	5	*0.5 U*	0.5 U	0.5 U	*0.5 U*	0.5 U	0.5 U	0.5 U
2-Hexanone	-	-	-	-	-	*5 U*	5 U	5 U	*5 U*	5 U	5 U	5 U
Dibromochloromethane	-	-	-	-	-	*0.5 U*	0.5 U	0.5 U	*0.5 U*	0.5 U	0.5 U	0.5 U
1,2-Dibromoethane	-	-	-	-	0.004	*0.5 U*	0.5 U	0.5 U	*0.5 U*	0.5 U	0.5 U	0.5 U
Chlorobenzene	-	-	-	-	100	*0.5 U*	0.5 U	0.5 U	*0.5 U*	0.5 U	0.5 U	0.5 U
Ethyl benzene	-	-	-	-	530	*0.5 U*	0.5 U	0.5 U	*0.5 U*	0.5 U	0.5 U	0.5 U
o-Xylene	-	-	-	-	-	*0.5 U*	0.5 U	0.5 U	*0.5 U*	0.5 U	0.5 U	0.5 U
m,p-Xylene	-	-	-	-	-	*0.5 U*	0.5 U	0.5 U	*0.5 U*	0.5 U	0.5 U	0.5 U
Styrene	-	-	-	-	100	*0.5 U*	0.5 U	0.5 U	*0.5 U*	0.5 U	0.5 U	0.5 U
Bromoform	-	-	-	-	43	*0.5 U*	0.5 U	0.5 U	*0.5 U*	0.5 U	0.5 U	0.5 U
Isopropylbenzene	-	-	-	-	-	*0.5 U*	0.5 U	0.5 U	*0.5 U*	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	-	-	-	-	1.7	*0.5 U*	0.5 U	0.5 U	*0.5 U*	0.5 U	0.5 U	0.5 U
1,3-Dichlorobenzene	-	-	-	-	320	*0.5 U*	0.5 U	0.5 U	*0.5 U*	0.5 U	0.5 U	0.5 U
1,4-Dichlorobenzene	-	-	-	-	75	*0.5 U*	0.5 U	0.5 U	*0.5 U*	0.5 U	0.5 U	0.5 U
1,2-Dichlorobenzene	-	-	-	-	420	*0.5 U*	0.5 U	0.5 U	*0.5 U*	0.5 U	0.5 U	0.5 U
1,2-Dibromo-3-chloropropane	-	-	-	-	-	*0.5 U*	0.5 U	0.5 U	*0.5 U*	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	-	-	-	-	35	*0.5 U*	0.5 U	0.5 U	*0.5 U*	0.5 U	0.5 U	0.5 U
1,2,3-Trichlorobenzene	-	-	-	-	-	*0.5 U*	0.5 U	0.5 U	*0.5 U*	0.5 U	0.5 U	0.5 U

J	The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.
U	The analyte was not detected above the CRQL.
MDEQ	Montana Department of Environmental Quality
µ/L	micro-gram per liter
ppb	parts per billion
X.X	Analytical Result > 3 x background value = observed contamination
☆	Concentration is > benchmark
Italic	Background sample

Sources: EPA 2011 (CLP limits and Low Concentration Detection Limits); MDEQ 2010 (Circular DEQ-7, Montana Numeric Water Quality Standards); EPA 2011 (SCDM)

Table 21, continued
VOCs in Surface Water
Units of µg/L (ppb)

Field Sample ID: Laboratory Sample ID: Location: Analytes	Superfund Chemical Data Matrix (SCDM) Surface Water Pathway Environmental (Acute)	Superfund Chemical Data Matrix (SCDM) Surface Water Pathway Environmental (Chronic)	Montana DEQ Circular 7 Aquatic Life Standards (Acute)	Montana DEQ Circular 7 Aquatic Life Standards (Chronic)	Montana DEQ Circular 7 Human Health Standards (Surface Water)	SSSW08 H30W6 Grab sample collected from Clark Fork River adjacent to pond 13	SSSW09 H30W7 Grab sample collected from the Clark Fork River immediately downstream of outfall 3	SSSW10 H30W8 Grab sample collected from the Clark Fork River immediately downstream of outfall 4	SSSW89 H30W9 Rinsate blank	SSSW99A H30S7 Trip blank	SSSW99B H3BA1 Trip blank
Dichlorodifluoromethane	-	-	-	-	1000	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloromethane	-	-	-	-	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl chloride	-	-	-	-	0.25	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	-	-	-	-	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	-	-	-	-	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichlorofluoromethane	-	-	-	-	10000	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethene	-	-	-	-	0.57	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloro-1,2,2-trifluoroethane	-	-	-	-	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Acetone	-	-	-	-	-	5 U	5 U	5 U	5 U	5 U	5 U
Carbon disulfide	-	-	-	-	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl acetate	-	-	-	-	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methylene chloride	-	-	-	-	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,2-Dichloroethene	-	-	-	-	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl tert-butyl ether	-	-	-	-	30	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	-	-	-	-	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,2-Dichloroethene	-	-	-	-	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl ethyl ketone (2-Butanone)	-	-	-	-	-	5 U	5 U	5 U	5 U	5 U	5 U
Bromochloromethane	-	-	-	-	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	-	-	-	-	57	0.5 U	0.5 U	0.5 U	0.65	0.64	0.39 J
1,1,1-Trichloroethane	-	-	-	-	200	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Cyclohexane	-	-	-	-	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon tetrachloride	-	-	-	-	2.3	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Benzene	-	-	-	-	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	-	-	-	-	3.8	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	-	-	-	-	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methylcyclohexane	-	-	-	-	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	-	-	-	-	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	-	-	-	-	5.5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,3-Dichloropropene	-	-	-	-	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
4-Methyl-2-pentanone (MIBK)	-	-	-	-	-	5 U	5 U	5 U	5 U	5 U	5 U
Toluene	-	-	-	-	1,000	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,3-Dichloropropene	-	-	-	-	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	-	-	-	-	3	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene	-	-	-	-	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Hexanone	-	-	-	-	-	5 U	5 U	5 U	5 U	5 U	5 U

Table 21, continued
VOCs in Surface Water
Units of µg/L (ppb)

Field Sample ID: Laboratory Sample ID: Location: Analytes	Superfund Chemical Data Matrix (SCDM) Surface Water Pathway Environmental (Acute)	Superfund Chemical Data Matrix (SCDM) Surface Water Pathway Environmental (Chronic)	Montana DEQ Circular 7 Aquatic Life Standards (Acute)	Montana DEQ Circular 7 Aquatic Life Standards (Chronic)	Montana DEQ Circular 7 Human Health Standards (Surface Water)	SSSW08 H30W6 Grab sample collected from Clark Fork River adjacent to pond 13	SSSW09 H30W7 Grab sample collected from the Clark Fork River immediately downstream of outfall 3	SSSW10 H30W8 Grab sample collected from the Clark Fork River immediately downstream of outfall 4	SSSW89 H30W9 Rinsate blank	SSSW99A H30S7 Trip blank	SSSW99B H3BA1 Trip blank
Dibromochloromethane	-	-	-	-	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dibromoethane	-	-	-	-	0.004	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	-	-	-	-	100	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethyl benzene	-	-	-	-	530	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
o-Xylene	-	-	-	-	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
m,p-Xylene	-	-	-	-	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	-	-	-	-	100	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	-	-	-	-	43	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Isopropylbenzene	-	-	-	-	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	-	-	-	-	1.7	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichlorobenzene	-	-	-	-	320	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,4-Dichlorobenzene	-	-	-	-	75	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichlorobenzene	-	-	-	-	420	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dibromo-3-chloropropane	-	-	-	-	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	-	-	-	-	35	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichlorobenzene	-	-	-	-	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

J The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.
U The analyte was not detected above the CRQL.
MDEQ Montana Department of Environmental Quality
µ/L micro-gram per liter
ppb parts per billion
X.X Analytical Result > 3 x background value = observed contamination
☆ Concentration is > benchmark
Italic Background sample

Sources: EPA 2011 (CLP limits and Low Concentration Detection Limits); MDEQ 2010 (Circular DEQ-7, Montana Numeric Water Quality Standards); EPA 2011 (SCDM)

TABLE 22
SVOCs in Surface Water
Units of µg/L (ppb)

Field Sample ID: Laboratory Sample ID: Location: Analytes	Superfund Chemical Data Matrix (SCDM) Surface Water Pathway Environmental (Acute)	Superfund Chemical Data Matrix (SCDM) Surface Water Pathway Environmental (Chronic)	Montana DEQ Circular 7 Aquatic Life Standards (Acute)	Montana DEQ Circular 7 Aquatic Life Standards (Chronic)	Montana DEQ Circular 7 Human Health Standards (Surface Water)	SSSW01 H30T9 BACKGROUND Grab sample collected from O'Keefe Creek immediately upstream of the PPE from the landfarm area	SSSW02 H30W0 Grab sample collected from O'Keefe Creek immediately downstream of the PPE from the landfarm area	SSSW03 H30W1 Grab sample collected from O'Keefe Creek immediately downstream of sludge pond 17	SSSW04 H30W2 BACKGROUND Grab sample collected from the Clark Fork River immediately upstream of potential source areas of the mill	SSSW05 H30W3 Grab sample collected from the Clark Fork River adjacent to pond 2	SSSW06 H30W4 Grab sample collected from the Clark Fork River immediately downstream of outfall 1
Benzaldehyde	-	-	-	-	-	*5 U*	5 U	5 U	*5 U*	5 U	5 U
Phenol	-	-	-	-	300	*5 U*	5 U	5 U	*5 U*	5 U	5 U
Bis(2-chloroethyl)ether	-	-	-	-	-	*5 U*	5 U	5 U	*5 U*	5 U	5 U
2-Chlorophenol	-	-	-	-	81	*5 U*	5 U	5 U	*5 U*	5 U	5 U
2-Methylphenol	-	-	-	-	-	*5 U*	5 U	5 U	*5 U*	5 U	5 U
2,2'-Oxybis(1-chloropropane)	-	-	-	-	-	*5 U*	5 U	5 U	*5 U*	5 U	5 U
Acetophenone	-	-	-	-	-	*5 U*	5 U	5 U	*5 U*	5 U	5 U
4-Methylphenol	-	-	-	-	-	*5 U*	5 U	5 U	*5 U*	5 U	5 U
N-Nitroso-di-n-propylamine	-	-	-	-	0.05	*5 U*	5 U	5 U	*5 U*	5 U	5 U
Hexachloroethane	-	-	-	-	14	*5 U*	5 U	5 U	*5 U*	5 U	5 U
Nitrobenzene	-	-	-	-	17	*5 U*	5 U	5 U	*5 U*	5 U	5 U
Isophorone	-	-	-	-	350	*5 U*	5 U	5 U	*5 U*	5 U	5 U
2-Nitrophenol	-	-	-	-	-	*5 U*	5 U	5 U	*5 U*	5 U	5 U
2,4-Dimethylphenol	-	-	-	-	380	*5 U*	5 U	5 U	*5 U*	5 U	5 U
Bis(2-chloroethoxy)methane	-	-	-	-	-	*5 U*	5 U	5 U	*5 U*	5 U	5 U
2,4-Dichlorophenol	-	-	-	-	77	*5 U*	5 U	5 U	*5 U*	5 U	5 U
Naphthalene	-	-	-	-	100	*5 U*	5 U	5 U	*5 U*	5 U	5 U
4-Chloroaniline	-	-	-	-	-	*5 U*	5 U	5 U	*5 U*	5 U	5 U
Hexachlorobutadiene	-	-	-	-	4.4	*5 U*	5 U	5 U	*5 U*	5 U	5 U
Caprolactam	-	-	-	-	-	*5 U*	5 U	5 U	*5 U*	5 U	5 U
4-Chloro-3-methylphenol	-	-	-	-	-	*5 U*	5 U	5 U	*5 U*	5 U	5 U
2-Methylnaphthalene	-	-	-	-	-	*5 U*	5 U	5 U	*5 U*	5 U	5 U
Hexachlorocyclopentadiene	-	-	-	-	40	*5 U*	5 U	5 U	*5 U*	5 U	5 U
2,4,6-Trichlorophenol	-	-	-	-	14	*5 U*	5 U	5 U	*5 U*	5 U	5 U
2,4,5-Trichlorophenol	-	-	-	-	1800	*5 U*	5 U	5 U	*5 U*	5 U	5 U
1,1'-Biphenyl	-	-	-	-	-	*5 U*	5 U	5 U	*5 U*	5 U	5 U
2-Chloronaphthalene	-	-	-	-	-	*5 U*	5 U	5 U	*5 U*	5 U	5 U
2-Nitroaniline	-	-	-	-	-	*10 U*	10 U	10 U	*10 U*	10 U	10 U
Dimethylphthalate	-	-	-	-	270,000	*5 U*	5 U	5 U	*5 U*	5 U	5 U
2,6-Dinitrotoluene	-	-	-	-	0.5	*5 U*	5 U	5 U	*5 U*	5 U	5 U
Acenaphthylene	-	-	-	-	-	*5 U*	5 U	5 U	*5 U*	5 U	5 U
3-Nitroaniline	-	-			-	*10 U*	10 U	10 U	*10 U*	10 U	10 U
Acenaphthene	-	-	-	-	670	*5 U*	5 U	5 U	*5 U*	5 U	5 U

TABLE 22
SVOCs in Surface Water
Units of µg/L (ppb)

Field Sample ID: Laboratory Sample ID: Location: Analytes	Superfund Chemical Data Matrix (SCDM) Surface Water Pathway Environmental (Acute)	Superfund Chemical Data Matrix (SCDM) Surface Water Pathway Environmental (Chronic)	Montana DEQ Circular 7 Aquatic Life Standards (Acute)	Montana DEQ Circular 7 Aquatic Life Standards (Chronic)	Montana DEQ Circular 7 Human Health Standards (Surface Water)	SSSW01 H30T9 BACKGROUND Grab sample collected from O'Keefe Creek immediately upstream of the PPE from the landfarm area	SSSW02 H30W0 Grab sample collected from O'Keefe Creek immediately downstream of the PPE from the landfarm area	SSSW03 H30W1 Grab sample collected from O'Keefe Creek immediately downstream of sludge pond 17	SSSW04 H30W2 BACKGROUND Grab sample collected from the Clark Fork River immediately upstream of potential source areas of the mill	SSSW05 H30W3 Grab sample collected from the Clark Fork River adjacent to pond 2	SSSW06 H30W4 Grab sample collected from the Clark Fork River immediately downstream of outfall 1
2,4-Dinitrophenol	-	-			69	*10 U*	10 U	10 U	*10 U*	10 U	10 U
4-Nitrophenol	-	-	-	-	60	*10 U*	10 U	10 U	*10 U*	10 U	10 U
Dibenzofuran	-	-	-	-	-	*5 U*	5 U	5 U	*5 U*	5 U	5 U
2,4-Dinitrotoluene	-	-	-	-	1.1	*5 U*	5 U	5 U	*5 U*	5 U	5 U
Diethylphthalate	-	-	-	-	17,000	*5 U*	5 U	5 U	*5 U*	5 U	5 U
Fluorene	-	-	-	-	1,100	*5 U*	5 U	5 U	*5 U*	5 U	5 U
4-Chlorophenyl-phenylether	-	-	-	-	-	*5 U*	5 U	*5 U*	5 U	5 U	5 U
4-Nitroaniline	-	-	-	-	-	*10 U*	10 U	10 U	*10 U*	10 U	10 U
4,6-Dinitro-2-methylphenol	-	-	-	-	-	*10 U*	10 U	10 U	*10 U*	10 U	10 U
N-Nitrosodiphenylamine	-	-	-	-	33	*5 U*	5 U	5 U	*5 U*	5 U	5 U
1,2,4,5-Tetrachlorobenzene	-	-	-	-	0.97	*5 U*	5 U	5 U	*5 U*	5 U	5 U
4-Bromophenyl-phenylether	-	-	-	-	-	*5 U*	5 U	5 U	*5 U*	5 U	5 U
Hexachlorobenzene	-	-	-	-	0.0028	*5 U*	5 U	5 U	*5 U*	5 U	5 U
Atrazine	-	-	-	-	3	*5 U*	5 U	5 U	*5 U*	5 U	5 U
Pentachlorophenol	-	-	52*	40*	1	*10 U*	10 U	10 U	*10 U*	10 U	10 U
Phenanthrene	-	-	-	-	-	*5 U*	5 U	5 U	*5 U*	5 U	5 U
Anthracene	-	-	-	-	8300	*5 U*	5 U	5 U	*5 U*	5 U	5 U
Carbazole	-	-	-	-	-	*5 U*	5 U	5 U	*5 U*	5 U	5 U
Di-n-butylphthalate	-	-	-	-	2000	*5 U*	5 U	5 U	*5 U*	5 U	5 U
Fluoranthene	-	-	-	-	130	*5 U*	5 U	5 U	*5 U*	5 U	5 U
Pyrene	-	-	-	-	830	*5 U*	5 U	5 U	*5 U*	5 U	5 U
Butylbenzylphthalate	-	-	-	-	1500	*5 U*	5 U	5 U	*5 U*	5 U	5 U
3,3'-Dichlorobenzidine	-	-	-	-	0.21	*5 U*	5 U	5 U	*5 U*	5 U	5 U
Benzo(a)anthracene	-	-	-	-	0.038	*5 U*	5 U	5 U	*5 U*	5 U	5 U
Chrysene	-	-	-	-	0.038	*5 U*	5 U	5 U	*5 U*	5 U	5 U
Bis(2-ethylhexyl)phthalate	-	-	-	-	-	*5 U*	5 U	5 U	*5 U*	5 U	5 U
Di-n-octylphthalate	-	-	-	-	-	*5 U*	5 U	5 U	*5 U*	5 U	5 U
Benzo(b)fluoranthene	-	-	-	-	0.038	*5 U*	5 U	5 U	*5 U*	5 U	5 U
Benzo(k)fluoranthene	-	-	-	-	0.038	*5 U*	5 U	5 U	*5 U*	5 U	5 U
Benzo(a)pyrene	-	-	-	-	0.038	*5 U*	5 U	5 U	*5 U*	5 U	5 U
Indeno(1,2,3-cd)pyrene	-	-	-	-	0.038	*5 U*	5 U	5 U	*5 U*	5 U	5 U
Dibenzo(a,h)anthracene	-	-	-	-	0.038	*5 U*	5 U	5 U	*5 U*	5 U	5 U
Benzo(g,h,i)perylene	-	-	-	-	-	*5 U*	5 U	5 U	*5 U*	5 U	5 U

TABLE 22
SVOCs in Surface Water
Units of µg/L (ppb)

Field Sample ID: Laboratory Sample ID: Location: Analytes	Superfund Chemical Data Matrix (SCDM) Surface Water Pathway Environmental (Acute)	Superfund Chemical Data Matrix (SCDM) Surface Water Pathway Environmental (Chronic)	Montana DEQ Circular 7 Aquatic Life Standards (Acute)	Montana DEQ Circular 7 Aquatic Life Standards (Chronic)	Montana DEQ Circular 7 Human Health Standards (Surface Water)	SSSW01 H30T9 BACKGROUND Grab sample collected from O'Keefe Creek immediately upstream of the PPE from the landfarm area	SSSW02 H30W0 Grab sample collected from O'Keefe Creek immediately downstream of the PPE from the landfarm area	SSSW03 H30W1 Grab sample collected from O'Keefe Creek immediately downstream of sludge pond 17	SSSW04 H30W2 BACKGROUND Grab sample collected from the Clark Fork River immediately upstream of potential source areas of the mill	SSSW05 H30W3 Grab sample collected from the Clark Fork River adjacent to pond 2	SSSW06 H30W4 Grab sample collected from the Clark Fork River immediately downstream of outfall 1
2,3,4,6-Tetrachlorophenol	-	-	-	-	-	*5 U*	5 U	5 U	*5 U*	5 U	5 U

* Freshwater Aquatic Life Standards for pentachlorophenol are expressed as a function of average pH of surface water samples.
J The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.
U The analyte was not detected above the CRQL.
MDEQ Montana Department of Environmental Quality
µ/L micro-gram per liter
ppb parts per billion
X.X Analytical Result > 3 x background value = observed contamination
☆ Concentration is > benchmark
Italic Background sample

Sources: EPA 2011 (CLP limits and Low Concentration Detection Limits); MDEQ 2010 (Circular DEQ-7, Montana Numeric Water Quality Standards); EPA 2011 (SCDM)

TABLE 22, continued
SVOCs in Surface Water
Units of µg/L (ppb)

Field Sample ID: Laboratory Sample ID: Location: Analytes	Superfund Chemical Data Matrix (SCDM) Surface Water Pathway Environmental (Acute)	Superfund Chemical Data Matrix (SCDM) Surface Water Pathway Environmental (Chronic)	Montana DEQ Circular 7 Aquatic Life Standards (Acute)	Montana DEQ Circular 7 Aquatic Life Standards (Chronic)	Montana DEQ Circular 7 Human Health Standards (Surface Water)	SSSW07 H30W5 Grab sample collected from the Clark Fork River immediately downstream of outfall 2	SSSW08 H30W6 Grab sample collected from Clark Fork River adjacent to pond 13	SSSW09 H30W7 Grab sample collected from the Clark Fork River immediately downstream of outfall 3	SSSW10 H30W8 Grab sample collected from the Clark Fork River immediately downstream of outfall 4	SSSW89 H30W9 Rinsate blank
Benzaldehyde	-	-	-	-	-	5 U	5 U	5 U	5 U	5 U
Phenol	-	-	-	-	300	5 U	5 U	5 U	5 U	5 U
Bis(2-chloroethyl)ether	-	-	-	-	-	5 U	5 U	5 U	5 U	5 U
2-Chlorophenol	-	-	-	-	81	5 U	5 U	5 U	5 U	5 U
2-Methylphenol	-	-	-	-	-	5 U	5 U	5 U	5 U	5 U
2,2'-Oxybis(1-chloropropane)	-	-	-	-	-	5 U	5 U	5 U	5 U	5 U
Acetophenone	-	-	-	-	-	5 U	5 U	5 U	5 U	5 U
4-Methylphenol	-	-	-	-	-	5 U	5 U	5 U	5 U	5 U
N-Nitroso-di-n-propylamine	-	-	-	-	0.05	5 U	5 U	5 U	5 U	5 U
Hexachloroethane	-	-	-	-	14	5 U	5 U	5 U	5 U	5 U
Nitrobenzene	-	-	-	-	17	5 U	5 U	5 U	5 U	5 U
Isophorone	-	-	-	-	350	5 U	5 U	5 U	5 U	5 U
2-Nitrophenol	-	-	-	-	-	5 U	5 U	5 U	5 U	5 U
2,4-Dimethylphenol	-	-	-	-	380	5 U	5 U	5 U	5 U	5 U
Bis(2-chloroethoxy)methane	-	-	-	-	-	5 U	5 U	5 U	5 U	5 U
2,4-Dichlorophenol	-	-	-	-	77	5 U	5 U	5 U	5 U	5 U
Naphthalene	-	-	-	-	100	5 U	5 U	5 U	5 U	5 U
4-Chloroaniline	-	-	-	-	-	5 U	5 U	5 U	5 U	5 U
Hexachlorobutadiene	-	-	-	-	4.4	5 U	5 U	5 U	5 U	5 U
Caprolactam	-	-	-	-	-	5 U	5 U	5 U	5 U	5 U
4-Chloro-3-methylphenol	-	-	-	-	-	5 U	5 U	5 U	5 U	5 U
2-Methylnaphthalene	-	-	-	-	-	5 U	5 U	5 U	5 U	5 U
Hexachlorocyclopentadiene	-	-	-	-	40	5 U	5 U	5 U	5 U	5 U
2,4,6-Trichlorophenol	-	-	-	-	14	5 U	5 U	5 U	5 U	5 U
2,4,5-Trichlorophenol	-	-	-	-	1800	5 U	5 U	5 U	5 U	5 U
1,1'-Biphenyl	-	-	-	-	-	5 U	5 U	5 U	5 U	5 U
2-Chloronaphthalene	-	-	-	-	-	5 U	5 U	5 U	5 U	5 U
2-Nitroaniline	-	-	-	-	-	10 U	10 U	10 U	10 U	10 U
Dimethylphthalate	-	-	-	-	270000	5 U	5 U	5 U	5 U	5 U
2,6-Dinitrotoluene	-	-	-	-	0.5	5 U	5 U	5 U	5 U	5 U
Acenaphthylene	-	-	-	-	-	5 U	5 U	5 U	5 U	5 U
3-Nitroaniline	-	-			-	10 U	10 U	10 U	10 U	10 U
Acenaphthene	-	-	-	-	670	5 U	5 U	5 U	5 U	5 U

TABLE 22, continued
SVOCs in Surface Water
Units of µg/L (ppb)

Field Sample ID: Laboratory Sample ID: Location: Analytes	Superfund Chemical Data Matrix (SCDM) Surface Water Pathway Environmental (Acute)	Superfund Chemical Data Matrix (SCDM) Surface Water Pathway Environmental (Chronic)	Montana DEQ Circular 7 Aquatic Life Standards (Acute)	Montana DEQ Circular 7 Aquatic Life Standards (Chronic)	Montana DEQ Circular 7 Human Health Standards (Surface Water)	SSSW07 H30W5 Grab sample collected from the Clark Fork River immediately downstream of outfall 2	SSSW08 H30W6 Grab sample collected from Clark Fork River adjacent to pond 13	SSSW09 H30W7 Grab sample collected from the Clark Fork River immediately downstream of outfall 3	SSSW10 H30W8 Grab sample collected from the Clark Fork River immediately downstream of outfall 4	SSSW89 H30W9 Rinsate blank
2,4-Dinitrophenol	-	-			69	10 U	10 U	10 U	10 U	10 U
4-Nitrophenol	-	-	-	-	60	10 U	10 U	10 U	10 U	10 U
Dibenzofuran	-	-	-	-	-	5 U	5 U	5 U	5 U	5 U
2,4-Dinitrotoluene	-	-	-	-	1.1	5 U	5 U	5 U	5 U	5 U
Diethylphthalate	-	-	-	-	17000	5 U	5 U	5 U	5 U	1.2 J
Fluorene	-	-	-	-	1100	5 U	5 U	5 U	5 U	5 U
4-Chlorophenyl-phenylether	-	-	-	-	-	5 U	5 U	5 U	5 U	5 U
4-Nitroaniline	-	-	-	-	-	10 U	10 U	10 U	10 U	10 U
4,6-Dinitro-2-methylphenol	-	-	-	-	-	10 U	10 U	10 U	10 U	10 U
N-Nitrosodiphenylamine	-	-	-	-	33	5 U	5 U	5 U	5 U	5 U
1,2,4,5-Tetrachlorobenzene	-	-	-	-	0.97	5 U	5 U	5 U	5 U	5 U
4-Bromophenyl-phenylether	-	-	-	-	-	5 U	5 U	5 U	5 U	5 U
Hexachlorobenzene	-	-	-	-	0.0028	5 U	5 U	5 U	5 U	5 U
Atrazine	-	-	-	-	3	5 U	5 U	5 U	5 U	5 U
Pentachlorophenol	-	-	52*	40*	1	10 U	10 U	10 U	10 U	10 U
Phenanthrene	-	-	-	-	-	5 U	5 U	5 U	5 U	5 U
Anthracene	-	-	-	-	8300	5 U	5 U	5 U	5 U	5 U
Carbazole	-	-	-	-	-	5 U	5 U	5 U	5 U	5 U
Di-n-butylphthalate	-	-	-	-	2000	5 U	5 U	5 U	5 U	5 U
Fluoranthene	-	-	-	-	130	5 U	5 U	5 U	5 U	5 U
Pyrene	-	-	-	-	830	5 U	5 U	5 U	5 U	5 U
Butylbenzylphthalate	-	-	-	-	1500	5 U	5 U	5 U	5 U	5 U
3,3'-Dichlorobenzidine	-	-	-	-	0.21	5 U	5 U	5 U	5 U	5 U
Benzo(a)anthracene	-	-	-	-	0.038	5 U	5 U	5 U	5 U	5 U
Chrysene	-	-	-	-	0.038	5 U	5 U	5 U	5 U	5 U
Bis(2-ethylhexyl)phthalate	-	-	-	-	-	5 U	5 U	5 U	5 U	5 U
Di-n-octylphthalate	-	-	-	-	-	5 U	5 U	5 U	5 U	5 U
Benzo(b)fluoranthene	-	-	-	-	0.038	5 U	5 U	5 U	5 U	5 U
Benzo(k)fluoranthene	-	-	-	-	0.038	5 U	5 U	5 U	5 U	5 U
Benzo(a)pyrene	-	-	-	-	0.038	5 U	5 U	5 U	5 U	5 U
Indeno(1,2,3-cd)pyrene	-	-	-	-	0.038	5 U	5 U	5 U	5 U	5 U
Dibenzo(a,h)anthracene	-	-	-	-	0.038	5 U	5 U	5 U	5 U	5 U
Benzo(g,h,i)perylene	-	-	-	-	-	5 U	5 U	5 U	5 U	5 U

TABLE 22, continued
SVOCs in Surface Water
Units of µg/L (ppb)

Field Sample ID: Laboratory Sample ID: Location: Analytes	Superfund Chemical Data Matrix (SCDM) Surface Water Pathway Environmental (Acute)	Superfund Chemical Data Matrix (SCDM) Surface Water Pathway Environmental (Chronic)	Montana DEQ Circular 7 Aquatic Life Standards (Acute)	Montana DEQ Circular 7 Aquatic Life Standards (Chronic)	Montana DEQ Circular 7 Human Health Standards (Surface Water)	SSSW07 H30W5 Grab sample collected from the Clark Fork River immediately downstream of outfall 2	SSSW08 H30W6 Grab sample collected from Clark Fork River adjacent to pond 13	SSSW09 H30W7 Grab sample collected from the Clark Fork River immediately downstream of outfall 3	SSSW10 H30W8 Grab sample collected from the Clark Fork River immediately downstream of outfall 4	SSSW89 H30W9 Rinsate blank
2,3,4,6-Tetrachlorophenol	-	-	-	-	-	5 U	5 U	5 U	5 U	5 U

* Freshwater Aquatic Life Standards for pentachlorophenol are expressed as a function of average pH of surface water samples.
J The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.
U The analyte was not detected above the CRQL.
MDEQ Montana Department of Environmental Quality
µ/L micro-gram per liter
ppb parts per billion
X.X Analytical Result > 3 x background value = observed contamination
☆ Concentration is > benchmark
Italic Background sample

Sources: EPA 2011 (CLP limits and Low Concentration Detection Limits); MDEQ 2010 (Circular DEQ-7, Montana Numeric Water Quality Standards); EPA 2011 (SCDM)

TABLE 23
Total Metals Surface Water
Units of µg/L (ppb)

Field Sample ID: **Laboratory Sample ID:** **Location:** **Analytes**	**Montana DEQ Circular 7 Aquatic Life Standards (Acute)**	**Montana DEQ Circular 7 Aquatic Life Standards (Chronic)**	**Montana DEQ Circular 7 Human Health Standards (Surface Water)**	**SSSW01** **H30T9** **BACKGROUND** **Grab sample collected from O'Keefe Creek immediately upstream of the PPE from the landfarm area**	**SSSW02** **H30W0** **Grab sample collected from O'Keefe Creek immediately downstream of the PPE from the landfarm area**	**SSSW03** **H30W1** **Grab sample collected from O'Keefe Creek immediately downstream of sludge pond 17**	**SSSW04** **H30W2** **BACKGROUND** **Grab sample collected from the Clark Fork River immediately upstream of potential source areas of the mill**	**SSSW05** **H30W3** **Grab sample collected from the Clark Fork River adjacent to pond 2**	**SSSW06** **H30W4** **Grab sample collected from the Clark Fork River immediately downstream of outfall 1**
Dilution Factor	-	-	-						
Aluminum (dissolved**)	750	87	-	*17.5 J (22.8)*	116 ☆	19.4 J (14.9)	*6.9 J (11.5)*	8.0 J (6.2)	10.7 J (8.2)
Aluminum		-	-	*147*	149	131	*37.1*	35.7	34.1
Antimony	-	-	5.6	*2 U*	2 U	2 U	*2 U*	2 U	2 U
Arsenic	340	150	10	*1.7*	1.8	1.8	*2.7*	2.8	2.9
Barium	-	-	2000	*167*	169	168	*93.3*	94.3	93.2
Beryllium	-	-	4	*1 U*	1 U	1 U	*1 U*	1 U	1 U
Cadmium	2.35*	0.29*	5	*1 U*	1 U	1 U	*1 U*	1 U	1 U
Calcium	-	-	-	*26,900*	27,900	27,400	*29,600*	29,700	29,200
Chromium	-	-	100	*2 U*	2 U	2 U	*2 U*	2 U	2 U
Cobalt	-	-	-	*1 U*	1 U	1 U	*1 U*	1 U	1 U
Copper	15.32*	10.12*	1300	*2 U*	2 U	2 U	*3.6*	3.2	3.3
Iron	-	1000	300	*218*	224	214	*200 U*	200 U	200 U
Lead	92.22*	3.59*	15	*1 U*	1 U	1 U	*1 U*	1 U	1 U
Magnesium	-	-	-	*11,600*	11,800	11,800	*8,350*	8,420	8,430
Manganese	-	-	50	*6.4*	7.7	9	*23.3*	43.5	40.9
Nickel	508.72*	56.56*	100	*0.7 J (0.9)*	0.62 J (0.48)	0.69 J (0.53)	*0.56 J (0.43)*	0.47 J (0.36)	0.45 J (0.35)
Potassium	-	-	-	*2340*	2430	2430	*1790*	1880	1870
Selenium	20	5	50	*5 U*	5 U	5 U	*5 U*	5 U	5 U
Silver	4.78*	-	100	*1 U*	1 U	1 U	*1 U*	1 U	1 U
Sodium	-	-	-	*13,800*	14,300	14,600	*6,420*	8,190	8,600
Thallium	-	-	0.24	*1 U*	1 U	1 U	*1 U*	1 U	1 U
Vanadium	-	-	-	*5 U*	5 U	5 U	*5 U*	5 U	5 U
Zinc	129.93*	129.93*	2000	*4.8*	3.1	4.2	*6.8*	7.4	6.1

* Freshwater Aquatic Life Standards for these metals are expressed as a function of total hardness (mg/l, CaCO3)
** Dissolved results are shown for aluminum, as the MDEQ Aquatic Life Standards for aluminum apply only to the dissolved, not the total fraction.
J The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.
U The analyte was not detected above the CRQL.
MDEQ Montana Department of Environmental Quality
µg/L micro-gram per liter
ppb parts per billion
X.X Analytical Result > 3 x background value = observed contamination
☆ Concentration is > benchmark
Italic Background sample
Sources: EPA 2011 (CLP limits and Low Concentration Detection Limits); MDEQ 2010 (Circular DEQ-7, Montana Numeric Water Quality Standards)

TDD Nos. 1105-09 and 1109-07
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TABLE 23, continued
Total Metals Surface Water
Units of µg/L (ppb)

Field Sample ID: Laboratory Sample ID: Location: Analytes	Montana DEQ Circular 7 Aquatic Life Standards (Acute)	Montana DEQ Circular 7 Aquatic Life Standards (Chronic)	Montana DEQ Circular 7 Human Health Standards (Surface Water)	SSSW07 H30W5 Grab sample collected from the Clark Fork River immediately downstream of outfall 2	SSSW08 H30W6 Grab sample collected from Clark Fork River adjacent to pond 13	SSSW09 H30W7 Grab sample collected from the Clark Fork River immediately downstream of outfall 3	SSSW10 H30W8 Grab sample collected from the Clark Fork River immediately downstream of outfall 4	SSSW89 H30W9 Rinsate blank
Dilution Factor	-	-	-					
Aluminum (dissolved**)	750	87	-	9.3 J (7.2)	40.4 (31.1)	17.4 J (13.4)	17.0 J (13.1)	-
Aluminum		-	-	34.4	45	37.5	65.6	20 U
Antimony	-	-	5.6	2 U	2 U	2 U	2 U	2 U
Arsenic	340	150	10	2.7	3.1	2.6	3	1 U
Barium	-	-	2000	90.7	94.4	90.8	87.5	10 U
Beryllium	-	-	4	1 U	1 U	1 U	1 U	1 U
Cadmium	2.35*	0.29*	5	1 U	1 U	1 U	1 U	1 U
Calcium	-	-	-	28,700	30,300	28,600	28,000	500 U
Chromium	-	-	100	2 U	2 U	2 U	2 U	2 U
Cobalt	-	-	-	1 U	1 U	1 U	1 U	1 UJ
Copper	15.32*	10.12*	1300	3.6	3.8	2.9	4.4	2 U
Iron	-	1000	300	200 U	200 U	200 U	200 U	200 U
Lead	92.22*	3.59*	15	1 U	2.1	1 U	1 U	1 U
Magnesium	-	-	-	8,170	8,710	8,200	8,130	500 U
Manganese	-	-	50	28.9	48	24.1	27.2	1 U
Nickel	508.72*	56.56*	100	0.36 J (0.28)	0.52 J (0.40)	0.46 J (0.36)	0.43 J (0.33)	1 U
Potassium	-	-	-	1,790	1,950	1,790	1,740	500 U
Selenium	20	5	50	5 U	5 U	5 U	5 U	5 U
Silver	4.78*	-	100	1 U	1 U	1 U	1 U	1 U
Sodium	-	-	-	6,850	15,600	7,540	8,560	1,380
Thallium	-	-	0.24	1 U	1 U	1 U	1 U	1 U
Vanadium	-	-	-	5 U	5 U	5 U	5 U	5 U
Zinc	129.93*	129.93*	2000	5.7	7.2	5.4	8.8	3

* Freshwater Aquatic Life Standards for these metals are expressed as a function of total hardness (mg/l, CaCO3)
** Dissolved results are shown for aluminum, as the MDEQ Aquatic Life Standards for aluminum apply only to the dissolved, not the total fraction.
J The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.
U The analyte was not detected above the CRQL.
MDEQ Montana Department of Environmental Quality
µg/L micro-gram per liter
ppb parts per billion
X.X Analytical Result > 3 x background value = observed contamination
☆ Concentration is > benchmark
Italic Background sample
Sources: EPA 2011 (CLP limits and Low Concentration Detection Limits); MDEQ 2010 (Circular DEQ-7, Montana Numeric Water Quality Standards)

Table 23a
Dissolved Metals Surface Water
Units of µg/L (ppb)

Field Sample ID: **Laboratory Sample ID:** **Location:** **Analytes**	**SCDM Surface Water Pathway Environmental (Acute)**	**SCDM Surface Water Pathway Environmental (Chronic)**	**SSSW01** **MH30Z9** **BACKGROUND** **Grab sample collected from O'Keefe Creek immediately upstream of the PPE from the landfarm area**	**SSSW02** **MH3100** **Grab sample collected from O'Keefe Creek immediately downstream of the PPE from the landfarm area**	**SSSW03** **MH3101** **Grab sample collected from O'Keefe Creek immediately downstream of sludge pond 17**	**SSSW04** **MH3102** **BACKGROUND** **Grab sample collected from the Clark Fork River immediately upstream of potential source areas of the mill**	**SSSW05** **MH3103** **Grab sample collected from the Clark Fork River adjacent to pond 2**	**SSSW06** **MH3104** **Grab sample collected from the Clark Fork River immediately downstream of outfall 1**
Dilution Factor	-	-						
Aluminum (total**)	750	87	*147* ☆	149 ☆	131 ☆	*37.1*	35.7	34.1
Aluminum	-	-	*17.5 J (22.8)*	116	19.4 J (14.9)	*6.9 J (11.5)*	8.0 J (6.2)	10.7 J (8.2)
Antimony	-	-	*2 U*	2 U	2 U	*0.18 J (0.36)*	0.21 J (0.17)	0.19 J (0.15)
Arsenic	340	150	*1.7*	1.8	1.6	*2.3*	2.7	2.6
Barium	-	-	*164*	168	158	*90.6*	93.2	90.3
Beryllium	-	-	*1 U*	1 U	1 U	*1 U*	1 U	1 U
Cadmium	2.23*	0.27*	*1 U*	1 U	1 U	*1 U*	1 U	1 U
Calcium	-	-	*27,400*	27,500	26,600	*29,500*	29,300	29,900
Chromium	-	-	*0.27 J (0.35)*	1 J (0.8)	0.18 J (0.14)	*0.24 J (0.31)*	0.19 J (0.15)	0.36 J (0.28)
Cobalt	-	-	*0.47 J (0.59)*	0.16 J (0.13)	0.64 J (0.50)	*0.62 J (0.78)*	0.67 J (0.53)	0.65 J (0.51)
Copper	14.87*	9.82*	*1.3 J (1.6)*	1.7 J (1.4)	1.1 J (0.88)	*1.4 J*	1.6 J	2.2
Iron	-	1000	*115 J (154)*	207	97.9 J (77.1)	*103 J (138)*	97.9 J (77.1)	114 J (89.8)
Lead	130.40*	2.83*	*0.4 J (0.6)*	0.44 J (0.34)	0.17 J (0.13)	*1.2*	0.14 J	0.34 J
Magnesium	-	-	*12,200*	12,200	12,000	*8,650*	8,710	8,660
Manganese	-	-	*4.4*	7.3	6.1	*4.8*	30.7	24.8
Nickel	512.69*	56.94*	*0.71 J (0.96)*	1.8	0.59 J (0.46)	*0.44 J*	0.48 J	0.67 J
Potassium	-	-	*2,450*	2,500	2,430	*1,850*	1,920	1,960
Selenium	-	5.0	*5 U*	5 U	5 U	*5 U*	5 U	5 U
Silver	3.87*	-	*1 U*	1 U	1 U	*1 U*	1 U	1 U
Sodium	-	-	*14,600*	14,400	14,200	*6,180*	8,600	8,900
Thallium	-	-	*1 U*	1 U	1 U	*1 U*	1 U	1 U
Vanadium	-	-	*0.37 J (0.50)*	0.87 J (0.70)	0.56 J (0.45)	*0.57 J (0.46)*	0.81 J (0.65)	0.65 J (0.52)
Zinc	128.32*	129.37*	*3.8*	5.2	3.6	*6.2*	4.2	8.1

* Value has been adjusted for total permanent water hardness expressed as equivalent of CaCO3.
** Total results are shown for aluminum, as the SCDM Standards for aluminum apply only to the total, not the dissolved fraction.
J The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.
U The analyte was not detected above the CRQL.
µg/L micro-gram per liter
ppb parts per billion
X.X Analytical Result > 3 x background value = observed contamination
☆ Concentration is > benchmark
SCDM Superfund Chemical Data Matrix
Italic Background sample
Sources: EPA 2011 (CLP limits and Low Concentration Detection Limits); EPA 2011 (SCDM); MDEQ 2010 (Circular DEQ-7, Montana Numeric Water Quality Standards)

Table 23a
Dissolved Metals Surface Water
Units of µg/L (ppb)

Field Sample ID: Laboratory Sample ID: Location: Analytes	Superfund Chemical Data Matrix (SCDM) RDSC (µg/L)	Superfund Chemical Data Matrix (SCDM) CRSC (µg/L)	SSSW07 MH3105 Grab sample collected from the Clark Fork River immediately downstream of outfall 2	SSSW08 MH3106 Grab sample collected from Clark Fork River adjacent to pond 13	SSSW09 MH3107 Grab sample collected from the Clark Fork River immediately downstream of outfall 3	SSSW10 MH3108 Grab sample collected from the Clark Fork River immediately downstream of outfall 4
Dilution Factor	-	-				
Aluminum (total**)	750	87	34.4	45	37.5	65.6
Aluminum	-	-	9.3 J (7.2)	40.4 (31.1)	17.4 J (13.4)	17.0 J (13.1)
Antimony	-	-	0.18 J (0.14)	0.18 J (0.14)	0.39 J (0.31)	0.27 J (0.21)
Arsenic	340	150	2.5	3	2.4	2.5
Barium	-	-	90.3	89.9	87.9	86.3
Beryllium	-	-	1 U	1 U	1 U	1 U
Cadmium	2.23*	0.27*	1 U	1 U	1 U	1 U
Calcium	-	-	29,200	29,600	28,800	28,300
Chromium	-	-	0.21 J (0.16)	0.44 J (0.34)	0.34 J (0.26)	0.27 J (0.21)
Cobalt	-	-	0.34 J (0.27)	0.29 J (0.23)	0.97 J (0.76)	1.1
Copper	14.87*	9.82*	1.8 J (1.4)	2.0 J	1.8 J	1.7 J
Iron	-	1000	99.3 J (78.2)	98.4 J (77.5)	123 J (96.9)	108 J (85.0)
Lead	130.40*	2.83*	0.9 J (0.69)	0.15 J (0.11)	0.3 J	0.17 J
Magnesium	-	-	8,560	9,080	8,400	8,380
Manganese	-	-	10.6	32	12.2	18.2
Nickel	512.69*	56.94*	0.44 J (0.34)	0.57 J (0.44)	0.61 J	0.51 J
Potassium	-	-	1890	2070	1830	1810
Selenium	-	5.0	5 U	5 U	5 U	5 U
Silver	3.87*	-	1 U	1 U	1 U	1 U
Sodium	-	-	7,120	18,200	7,750	8,750
Thallium	-	-	1 U	1 U	0.09 J	1 U
Vanadium	-	-	0.63 J (0.50)	5 U	0.64 J (0.51)	0.53 J (0.42)
Zinc	128.32*	129.37*	4.1	6.9	12.7	5.4

* Value has been adjusted for total permanent water hardness expressed as equivalent of CaCO3.
** Total results are shown for aluminum, as the SCDM Standards for aluminum apply only to the total, not the dissolved fraction.
J The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.
U The analyte was not detected above the CRQL.
µg/L micro-gram per liter
ppb parts per billion
X.X Analytical Result > 3 x background value = observed contamination
☆ Concentration is > benchmark
SCDM Superfund Chemical Data Matrix
Italic Background sample
Sources: EPA 2011 (CLP limits and Low Concentration Detection Limits); EPA 2011 (SCDM); MDEQ 2010 (Circular DEQ-7, Montana Numeric Water Quality Standards)

Table 24
PCBs in Sediment
Units of µg/kg (ppb)

Field Sample ID:	SSSE01	SSSE02	SSSE03	SSSE04	SSSE05	SSSE06	SSSE07	SSSE08	SSSE09	SSSE10
Laboratory Sample ID:	H30S8	H30S9	H30T0	H30T1	H30T2	H30T3	H30T4	H30T5	H30T6	H30T7
	BACKGROUND			BACKGROUND						
Location:	Grab sample collected from O'Keefe Creek immediately upstream of the PPE from the landfarm area	Grab sample collected from O'Keefe Creek immediately downstream of the PPE from the landfarm area	Grab sample collected from O'Keefe Creek immediately downstream of sludge pond 17	Grab sample collected from the Clark Fork River immediately upstream of potential source areas of the mill	Grab sample collected from the Clark Fork River adjacent to pond 2	Grab sample collected from the Clark Fork River immediately downstream of outfall 1	Grab sample collected from the Clark Fork River immediately downstream of outfall 2	Grab sample collected from Clark Fork River adjacent to pond 13	Grab sample collected from the Clark Fork River immediately downstream of outfall 3	Grab sample collected from the Clark Fork River immediately downstream of outfall 4
Analytes	(µg/Kg)									
Aroclor-1016	*49 U*	50 U	45 U	*37 U*	42 U	42 U	41 U	43 U	42 UJ	43 U
Aroclor-1221	*49 U*	50 U	45 U	*37 U*	42 U	42 U	41 U	43 U	42 UJ	43 U
Aroclor-1232	*49 U*	50 U	45 U	*37 U*	42 U	42 U	41 U	43 U	42 UJ	43 U
Aroclor-1242	*49 U*	50 U	45 U	*37 U*	42 U	42 U	41 U	43 U	42 UJ	43 U
Aroclor-1248	*49 U*	50 U	45 U	*37 U*	42 U	42 U	41 U	43 U	42 UJ	43 U
Aroclor-1254	*49 U*	50 U	45 U	*37 U*	42 U	42 U	41 U	43 U	42 UJ	43 U
Aroclor-1260	*49 U*	50 U	45 U	*37 U*	42 U	42 U	41 U	43 U	42 UJ	43 U
Aroclor-1262	*49 U*	50 U	45 U	*37 U*	42 U	42 U	41 U	43 U	42 UJ	43 U
Aroclor-1268	*49 U*	50 U	45 U	*37 U*	42 U	42 U	41 U	43 U	42 UJ	43 U

J The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.
U The analyte was not detected above the CRQL.
UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.
µg/kg micrograms per kilogram
ppb parts per billion
Italic Background sample
X.X Analytical Result > 3 x background value = observed contamination
Sources: EPA 2011 (CLP limits)

TABLE 25
Dioxins and Furans in Sediment
Units of pg/g (ppt)

Field Sample ID: **Laboratory Sample ID:** **Location:** **Analytes**	**SSSE01** **L1080162-13** **BACKGROUND** **Grab sample collected from O'Keefe Creek immediately upstream of the PPE from the landfarm area**	**WHO TEF Concentration**	**SSSE02** **L1080162-14** **Grab sample collected from O'Keefe Creek immediately downstream of the PPE from the landfarm area**	**WHO TEF Concentration**	**SSSE03** **L1080162-15** **Grab sample collected from O'Keefe Creek immediately downstream of sludge pond 17**	**WHO TEF Concentration**	**SSSE04** **L1080162-16** **BACKGROUND** **Grab sample collected from the Clark Fork River immediately upstream of potential source areas of the mill**	**WHO TEF Concentration**	**SSSE05** **L1080162-17** **Grab sample collected from the Clark Fork River adjacent to pond 2**	**WHO TEF Concentration**
2,3,7,8-TCDD	*0.05 U*	0.02800 U	0.05 U	0.02700 U	0.35	0.35000	*0.02 U*	0.01050 U	0.05 U	0.02650 U
1,2,3,7,8-PeCDD	*0.16 J*	0.16000 J	0.08 J	0.08000 J	0.08 J	0.08000 J	*0.03 U*	0.01700 U	0.05 U	0.02550 U
1,2,3,4,7,8-HxCDD	*0.2 J*	0.02000 J	0.06 U	0.00310 U	0.14 J	0.01400 J	*0.01 U*	0.00095 U	0.06 J	0.00600 J
1,2,3,6,7,8-HxCDD	*0.35 J*	0.03500 J	0.28 J	0.02800 J	0.27 J	0.02700 J	*0.01 U*	0.00095 U	0.12 J	0.01200 J
1,2,3,7,8,9-HxCDD	*0.42 J*	0.04200 J	0.06 U	0.00320 U	0.2 J	0.02000 J	*0.01 U*	0.00095 U	0.06 J	0.00600 J
1,2,3,4,6,7,8-HpCDD	*14.9*	0.14900	6.23	0.06230	7.67	0.07670	*0.06 UJ*	0.00010 UJ	2.34	0.02340
OCDD	*101*	0.03030	49.7	0.01491	69.4	0.02082	*1.05 U*	0.00000 U	15.9	0.00477
Total-TCDD	*0.05 U*	-	0.32	-	0.52	-	*0.02 U*	-	0.05 U	-
Total TCDD # Homologues	*0*	-	1	-	2	-	*0*	-	0	-
Total-PeCDD	*0.12*	-	0.08	-	0.28	-	*0.03 U*	-	0.05 U	-
Total PeCDD # Homologues	*1*	-	1	-	3	-	*0*	-	0	-
Total-HxCDD	*2.1*	-	1.11	-	0.47	-	*0.01 U*	-	0.43	-
Total HxCDD # Homologues	*2*	-	2	-	2	-	*0*	-	3	-
Total-HpCDD	*29.4*	-	11.8	-	18.4	-	*0.07*	-	4.56	-
Total HpCDD # Homologues	*2*	-	2	-	2	-	*1*	-	2	-
2,3,7,8-TCDF	*0.11 U*	0.00550 U	0.11 U	0.00550 U	0.1 J	0.01000 J	*0.02 U*	0.00105 U	0.11 U	0.00550 U
1,2,3,7,8-PeCDF	*0.07 U*	0.00114 U	0.05 J	0.00150 J	0.03 J	0.00090 J	*0.01 U*	0.00026 U	0.03 J	0.00090 J
2,3,4,7,8-PeCDF	*0.12 J*	0.03600 J	0.08 J	0.02400 J	0.07 J	0.02100 J	*0.01 J*	0.00210 J	0.05 J	0.01500 J
1,2,3,4,7,8-HxCDF	*0.13 UJ*	0.00265 UJ	0.07 UJ	0.00215 UJ	0.11 U	0.00110 U	*0.01 U*	0.00080U	0.04 UJ	0.00050 UJ
1,2,3,6,7,8-HxCDF	*0.08 UJ*	0.00265 UJ	0.06 UJ	0.00205 UJ	0.05 UJ	0.00115 UJ	*0.01 U*	0.00080 U	0.02 UJ	0.00050 UJ
1,2,3,7,8,9-HxCDF	*0.06 U*	0.00325 U	0.05 U	0.00255 U	0.03 UJ	0.00135 UJ	*0.02 U*	0.00100 U	0.01 U	0.00060 U
2,3,4,6,7,8-HxCDF	*0.05 U*	0.00275 U	0.08 UJ	0.00210 UJ	0.08 UJ	0.00120 UJ	*0.01 U*	0.00085 U	0.02 UJ	0.00050 UJ
1,2,3,4,6,7,8-HpCDF	*2.94*	0.02940	1.18	0.01180	1.41	0.01410	*0.04 J*	0.00040 J	0.44 J	0.00440 J
1,2,3,4,7,8,9-HpCDF	*0.11 U*	0.00045 U	0.12 U	0.00060	0.08 UJ	0.00030 UJ	*0.0089 U*	0.00010 U	0.02 U	0.00013 U
OCDF	*14.4*	0.00432	5.06	0.00152	4.83	0.00145	*0.1 J*	0.00003 J	1.34	0.00040
Total-TCDF	*2.88*	-	4.14	-	1.06	-	*0.02 U*	-	0.17	-
Total TCDF # Homologues	*4*	-	6	-	4	-	*0*	-	1	-
Total-PeCDF	*0.94*	-	0.79	-	0.31	-	*0.01 U*	-	0.17	-
Total PeCDF # Homologues	*4*	-	5	-	3	-	*0*	-	4	-
Total-HxCDF	*2.19*	-	0.68	-	1.96	-	*0.02 U*	-	0.25 U	-
Total HxCDF # Homologues	*3*	-	2	-	4	-	*0*	-	2	-
Total-HpCDF	*7.64*	-	3.33	-	4.39	-	*0.04 U*	-	0.02 U	-

TABLE 25
Dioxins and Furans in Sediment
Units of pg/g (ppt)

Field Sample ID:	**SSSE01**	**WHO TEF Concentration**	**SSSE02**	**WHO TEF Concentration**	**SSSE03**	**WHO TEF Concentration**	**SSSE04**	**WHO TEF Concentration**	**SSSE05**	**WHO TEF Concentration**
Laboratory Sample ID:	**L1080162-13**		**L1080162-14**		**L1080162-15**		**L1080162-16**		**L1080162-17**	
	BACKGROUND						**BACKGROUND**			
Location:	**Grab sample collected from O'Keefe Creek immediately upstream of the PPE from the landfarm area**		**Grab sample collected from O'Keefe Creek immediately downstream of the PPE from the landfarm area**		**Grab sample collected from O'Keefe Creek immediately downstream of sludge pond 17**		**Grab sample collected from the Clark Fork River immediately upstream of potential source areas of the mill**		**Grab sample collected from the Clark Fork River adjacent to pond 2**	
Analytes										
Total HpCDF # Homologues	*3*	-	2	-	2	-	*1*	-	0	-
WHO TEQ	-	0.55241	-	0.27228	-	0.64106	-	0.03783	-	0.13260

J The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.
U The analyte was not detected above the CRQL.
UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.
pg/g picogram per gram
ppt parts per trillion
WHO TEQ World Health Organization Toxicity Equivalent
WHO TEF Conc. World Health Organization Toxicity Equivalence Factor Concentration
Italic Background sample
X.X Analytical Result > 3 x background value = observed contamination
Sources: EPA 2011 (CLP limits and Low Concentration Detection Limits)

TABLE 25, continued
Dioxins and Furans in Sediment
Units of pg/g (ppt)

Field Sample ID: Laboratory Sample ID: Location: Analytes	SSSE06 L1080162-18 Grab sample collected from the Clark Fork River immediately downstream of outfall 1	WHO TEF Concentration	SSSE07 L1080162-19 Grab sample collected from the Clark Fork River immediately downstream of outfall 2	WHO TEF Concentration	SSSE08 L1080162-20 Grab sample collected from Clark Fork River adjacent to pond 13	WHO TEF Concentration	SSSE09 L1080162-21 Grab sample collected from the Clark Fork River immediately downstream of outfall 3	WHO TEF Concentration	SSSE10 L1080162-22 Grab sample collected from the Clark Fork River immediately downstream of outfall 4	WHO TEF Concentration
2,3,7,8-TCDD	0.04 U	0.02000 U	0.04 U	0.02100 U	0.03 U	0.01750 U	0.05 U	0.02800 U	0.05 U	0.02850 U
1,2,3,7,8-PeCDD	0.04 U	0.02450 U	0.04 U	0.02250 U	0.05 U	0.02850 U	0.08 U	0.04100 U	0.08 U	0.04350 U
1,2,3,4,7,8-HxCDD	0.04 U	0.00200 U	0.03 J	0.00300 J	0.04 UJ	0.00075 UJ	0.07 UJ	0.00265 UJ	0.06 U	0.00315 U
1,2,3,6,7,8-HxCDD	0.04 U	0.00200 U	0.15 J	0.01500 J	0.04 J	0.00400 J	0.19 J	0.01900 J	0.09 J	0.00900 J
1,2,3,7,8,9-HxCDD	0.04 U	0.00205 U	0.1 J	0.01000 J	0.11 UJ	0.00075 UJ	0.09 U	0.00270 U	0.14 U	0.00325 U
1,2,3,4,6,7,8-HpCDD	0.69	0.00690	1.69	0.01690	1.44	0.01440	3.8	0.03800	2.2	0.02200
OCDD	4.53	0.00136	11.9	0.00357	9.24	0.00277	28.8	0.00864	15	0.00450
Total-TCDD	0.04 U	-	0.04 U	-	0.03 U	-	0.05 U	-	0.05 U	-
Total TCDD # Homologues	0	-	0	-	0	-	0	-	0	-
Total-PeCDD	0.04 U	-	0.06	-	0.06	-	0.08 U	-	0.08 U	-
Total PeCDD # Homologues	0	-	1	-	1	-	0	-	0	-
Total-HxCDD	0.04 U	-	0.26	-	0.38 U	-	0.29 U	-	0.14 U	-
Total HxCDD # Homologues	0	-	3	-	1	-	2	-	1	-
Total-HpCDD	1.32	-	3.75	-	3.08	-	7.5	-	4.4	-
Total HpCDD # Homologues	2	-	2	-	2	-	2	-	2	-
2,3,7,8-TCDF	0.06 U	0.00300 U	0.05 U	0.00295 U	0.04 U	0.00240 U	0.09 U	0.00485	0.05 U	0.00275 U
1,2,3,7,8-PeCDF	0.03 U	0.00047 U	0.02 U	0.00039 U	0.03 U	0.00057 U	0.07 J	0.00210 J	0.06 J	0.00180 J
2,3,4,7,8-PeCDF	0.02 U	0.00420 U	0.04 J	0.01200 J	0.03 U	0.00525 U	0.08 J	0.02400 J	0.12 J	0.03600 J
1,2,3,4,7,8-HxCDF	0.02 U	0.00135 U	0.02 UJ	0.00075 UJ	0.02 U	0.00145 U	0.14 J	0.01400 J	0.07 J	0.00700 J
1,2,3,6,7,8-HxCDF	0.02 U	0.00140 U	0.02 UJ	0.00080 UJ	0.03 U	0.00160 U	0.07 J	0.00700 J	0.08 J	0.00800 J
1,2,3,7,8,9-HxCDF	0.03 U	0.00160 U	0.02 U	0.00105 U	0.03 U	0.00185 U	0.03 U	0.00155 U	0.05 U	0.00260 U
2,3,4,6,7,8-HxCDF	0.02 U	0.00140 U	0.02 UJ	0.00085 UJ	0.03 U	0.00160 U	0.1 U	0.00130 U	0.08 U	0.00215 U
1,2,3,4,6,7,8-HpCDF	0.11 J	0.00110 J	0.36 J	0.00360 J	0.08 UJ	0.00014 UJ	0.89 J	0.00890 J	0.61 J	0.00610 J
1,2,3,4,7,8,9-HpCDF	0.02 U	0.00012 U	0.03 UJ	0.00008 UJ	0.04 U	0.00020 U	0.08 UJ	0.00028 UJ	0.1 U	0.00030 U
OCDF	0.29 J	0.00009 J	1.18	0.00035	0.47 U	0.00001 U	3.3 J	0.00099 J	1.6 U	0.00002 U
Total-TCDF	0.06 U	-	0.05 U	-	0.04 U	-	0.09 U	-	0.42	-
Total TCDF # Homologues	0	-	0	-	0	-	0	-	2	-
Total-PeCDF	0.03 U	-	0.04	-	0.03 U	-	0.67	-	0.21	-
Total PeCDF # Homologues	0	-	1	-	0	-	6	-	4	-
Total-HxCDF	0.03 U	-	0.02 U	-	0.04	-	0.62	-	0.47	-
Total HxCDF # Homologues	0	-	0	-	2	-	3	-	3	-
Total-HpCDF	0.02 U	-	0.8	-	0.04 U	-	2.38	-	0.77 U	-

TABLE 25, continued
Dioxins and Furans in Sediment
Units of pg/g (ppt)

Field Sample ID: Laboratory Sample ID: Location: Analytes	SSSE06 L1080162-18 Grab sample collected from the Clark Fork River immediately downstream of outfall 1	WHO TEF Concentration	SSSE07 L1080162-19 Grab sample collected from the Clark Fork River immediately downstream of outfall 2	WHO TEF Concentration	SSSE08 L1080162-20 Grab sample collected from Clark Fork River adjacent to pond 13	WHO TEF Concentration	SSSE09 L1080162-21 Grab sample collected from the Clark Fork River immediately downstream of outfall 3	WHO TEF Concentration	SSSE10 L1080162-22 Grab sample collected from the Clark Fork River immediately downstream of outfall 4	WHO TEF Concentration
Total HpCDF # Homologues	0	-	2	-	0	-	2	-	3	-
WHO TEQ	-	0.07353	-	0.11479	-	0.08374	-	0.20496	-	0.18062

J The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.
U The analyte was not detected above the CRQL.
UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.
pg/g picogram per gram
ppt parts per trillion
WHO TEQ World Health Organization Toxicity Equivalent
WHO TEF Conc. World Health Organization Toxicity Equivalence Factor Concentration
Italic Background sample
X.X Analytical Result > 3 x background value = observed contamination
Sources: EPA 2011 (CLP limits and Low Concentration Detection Limits)

TABLE 26
VOCs in Sediment
Units of µg/kg (ppb)

Field Sample ID:	SSSE01	SSSE02	SSSE03	SSSE04	SSSE05	SSSE06	SSSE07	SSSE08	SSSE09	SSSE10
Laboratory Sample ID:	H30S8	H30S9	H30T0	H30T1	H30T2	H30T3	H30T4	H30T5	H30T6	H30T7
Location:	BACKGROUND	Grab sample collected from O'Keefe Creek immediately downstream of the PPE from the landfarm area	Grab sample collected from O'Keefe Creek immediately downstream of sludge pond 17	BACKGROUND	Grab sample collected from the Clark Fork River adjacent to pond 2	Grab sample collected from the Clark Fork River immediately downstream of outfall 1	Grab sample collected from the Clark Fork River immediately downstream of outfall 2	Grab sample collected from Clark Fork River adjacent to pond 13	Grab sample collected from the Clark Fork River immediately downstream of outfall 3	Grab sample collected from the Clark Fork River immediately downstream of outfall 4
Analytes	Grab sample collected from O'Keefe Creek immediately upstream of the PPE from the landfarm area (µg/Kg)			Grab sample collected from the Clark Fork River immediately upstream of potential source areas of the mill						
Dichlorodifluoromethane	*7.5 U*	7.3 U	6.9 U	*5.5 U*	6.2 U	6.5 U	6.5 U	6.6 U	6.4 U	6.6 U
Chloromethane	*7.5 U*	7.3 U	6.9 U	*5.5 U*	6.2 U	6.5 U	6.5 U	6.6 U	6.4 U	6.6 U
Vinyl chloride	*7.5 U*	7.3 U	6.9 U	*5.5 U*	6.2 U	6.5 U	6.5 U	6.6 U	6.4 U	6.6 U
Bromomethane	*7.5 U*	7.3 U	6.9 U	*5.5 U*	6.2 U	6.5 U	6.5 U	6.6 U	6.4 U	6.6 U
Chloroethane	*7.5 U*	7.3 U	6.9 U	*5.5 U*	6.2 U	6.5 U	6.5 U	6.6 U	6.4 U	6.6 U
Trichlorofluoromethane	*7.5 U*	7.3 U	6.9 U	*5.5 U*	6.2 U	6.5 U	6.5 U	6.6 U	6.4 U	6.6 U
1,1-Dichloroethene	*7.5 U*	7.3 U	6.9 U	*5.5 U*	6.2 U	6.5 U	6.5 U	6.6 U	6.4 U	6.6 U
1,1,2-Trichloro-1,2,2-trifluoroethane	*7.5 U*	7.3 U	6.9 U	*5.5 U*	6.2 U	6.5 U	6.5 U	6.6 U	6.4 U	6.6 U
Acetone	*15 U*	15 U	14 U	*11 U*	12 U	13 U	13 U	13 U	13 U	13 U
Carbon disulfide	*7.5 U*	7.3 U	6.9 U	*5.5 U*	6.2 U	6.5 U	6.5 U	6.6 U	6.4 U	6.6 U
Methyl acetate	*7.5 U*	7.3 U	6.9 U	*5.5 U*	6.2 U	6.5 U	6.5 U	6.6 U	6.4 U	6.6 U
Methylene chloride	*7.5 U*	7.3 U	6.9 U	*5.5 U*	6.2 U	6.5 U	6.5 U	6.6 U	6.4 U	6.6 U
trans-1,2-Dichloroethene	*7.5 U*	7.3 U	6.9 U	*5.5 U*	6.2 U	6.5 U	6.5 U	6.6 U	6.4 U	6.6 U
Methyl tert-butyl ether	*7.5 U*	7.3 U	6.9 U	*5.5 U*	6.2 U	6.5 U	6.5 U	6.6 U	6.4 U	6.6 U
1,1-Dichloroethane	*7.5 U*	7.3 U	6.9 U	*5.5 U*	6.2 U	6.5 U	6.5 U	6.6 U	6.4 U	6.6 U
cis-1,2-Dichloroethene	*7.5 U*	7.3 U	6.9 U	*5.5 U*	6.2 U	6.5 U	6.5 U	6.6 U	6.4 U	6.6 U
2-Butanone	*15 U*	15 U	14 U	*11 U*	12 U	13 U	13 U	13 U	13 U	13 U
Bromochloromethane	*7.5 U*	7.3 U	6.9 U	*5.5 U*	6.2 U	6.5 U	6.5 U	6.6 U	6.4 U	6.6 U
Chloroform	*7.5 U*	7.3 U	6.9 U	*5.5 U*	6.2 U	6.5 U	6.5 U	6.6 U	6.4 U	6.6 U
1,1,1-Trichloroethane	*7.5 U*	7.3 U	6.9 U	*5.5 U*	6.2 U	6.5 U	6.5 U	6.6 U	6.4 U	6.6 U
Cyclohexane	*7.5 U*	7.3 U	6.9 U	*5.5 U*	6.2 U	6.5 U	6.5 U	6.6 U	6.4 U	6.6 U
Carbon tetrachloride	*7.5 U*	7.3 U	6.9 U	*5.5 U*	6.2 U	6.5 U	6.5 U	6.6 U	6.4 U	6.6 U
Benzene	*7.5 U*	7.3 U	6.9 U	*5.5 U*	6.2 U	6.5 U	6.5 U	6.6 U	6.4 U	6.6 U
1,2-Dichloroethane	*7.5 U*	7.3 U	6.9 U	*5.5 U*	6.2 U	6.5 U	6.5 U	6.6 U	6.4 U	6.6 U
1,4-Dioxane	*150 U*	150 U	140 U	*110 U*	120 U	130 U	130 U	130 U	130 U	130 U
Trichloroethene	*7.5 U*	7.3 U	6.9 U	*5.5 U*	6.2 U	6.5 U	6.5 U	6.6 U	6.4 U	6.6 U
Methylcyclohexane	*7.5 U*	7.3 U	6.9 U	*5.5 U*	6.2 U	6.5 U	6.5 U	6.6 U	6.4 U	6.6 U
1,2-Dichloropropane	*7.5 U*	7.3 U	6.9 U	*5.5 U*	6.2 U	6.5 U	6.5 U	6.6 U	6.4 U	6.6 U
Bromodichloromethane	*7.5 U*	7.3 U	6.9 U	*5.5 U*	6.2 U	6.5 U	6.5 U	6.6 U	6.4 U	6.6 U
cis-1,3-Dichloropropene	*7.5 U*	7.3 U	6.9 U	*5.5 U*	6.2 U	6.5 U	6.5 U	6.6 U	6.4 U	6.6 U
4-Methyl-2-pentanone	*15 U*	15 U	14 U	*11 U*	12 U	13 U	13 U	13 U	13 U	13 U
Toluene	*7.5 U*	7.3 U	6.9 U	*5.5 U*	6.2 U	6.5 U	6.5 U	6.6 U	6.4 U	6.6 U
trans-1,3-Dichloropropene	*7.5 U*	7.3 U	6.9 U	*5.5 U*	6.2 U	6.5 U	6.5 U	6.6 U	6.4 U	6.6 U

TABLE 26
VOCs in Sediment
Units of µg/kg (ppb)

Field Sample ID:	SSSE01	SSSE02	SSSE03	SSSE04	SSSE05	SSSE06	SSSE07	SSSE08	SSSE09	SSSE10
Laboratory Sample ID:	H30S8	H30S9	H30T0	H30T1	H30T2	H30T3	H30T4	H30T5	H30T6	H30T7
Location:	BACKGROUND Grab sample collected from O'Keefe Creek immediately upstream of the PPE from the landfarm area	Grab sample collected from O'Keefe Creek immediately downstream of the PPE from the landfarm area	Grab sample collected from O'Keefe Creek immediately downstream of sludge pond 17	BACKGROUND Grab sample collected from the Clark Fork River immediately upstream of potential source areas of the mill	Grab sample collected from the Clark Fork River adjacent to pond 2	Grab sample collected from the Clark Fork River immediately downstream of outfall 1	Grab sample collected from the Clark Fork River immediately downstream of outfall 2	Grab sample collected from Clark Fork River adjacent to pond 13	Grab sample collected from the Clark Fork River immediately downstream of outfall 3	Grab sample collected from the Clark Fork River immediately downstream of outfall 4
Analytes	**(µg/Kg)**									
1,1,2-Trichloroethane	*7.5 U*	7.3 U	6.9 U	*5.5 U*	6.2 U	6.5 U	6.5 U	6.6 U	6.4 U	6.6 U
Tetrachloroethene	*7.5 U*	7.3 U	6.9 U	*5.5 U*	6.2 U	6.5 U	6.5 U	6.6 U	6.4 U	6.6 U
2-Hexanone	*15 U*	15 U	14 U	*11 U*	12 U	13 U	13 U	13 U	13 U	13 U
Dibromochloromethane	*7.5 U*	7.3 U	6.9 U	*5.5 U*	6.2 U	6.5 U	6.5 U	6.6 U	6.4 U	6.6 U
1,2-Dibromoethane	*7.5 U*	7.3 U	6.9 U	*5.5 U*	6.2 U	6.5 U	6.5 U	6.6 U	6.4 U	6.6 U
Chlorobenzene	*7.5 U*	7.3 U	6.9 U	*5.5 U*	6.2 U	6.5 U	6.5 U	6.6 U	6.4 U	6.6 U
Ethylbenzene	*7.5 U*	7.3 U	6.9 U	*5.5 U*	6.2 U	6.5 U	6.5 U	6.6 U	6.4 U	6.6 U
o-Xylene	*7.5 U*	7.3 U	6.9 U	*5.5 U*	6.2 U	6.5 U	6.5 U	6.6 U	6.4 U	6.6 U
m,p-Xylene	*7.5 U*	7.3 U	6.9 U	*5.5 U*	6.2 U	6.5 U	6.5 U	6.6 U	6.4 U	6.6 U
Styrene	*7.5 U*	7.3 U	6.9 U	*5.5 U*	6.2 U	6.5 U	6.5 U	6.6 U	6.4 U	6.6 U
Bromoform	*7.5 U*	7.3 U	6.9 U	*5.5 U*	6.2 U	6.5 U	6.5 U	6.6 U	6.4 U	6.6 U
Isopropylbenzene	*7.5 U*	7.3 U	6.9 U	*5.5 U*	6.2 U	6.5 U	6.5 U	6.6 U	6.4 U	6.6 U
1,1,2,2-Tetrachloroethane	*7.5 U*	7.3 U	6.9 U	*5.5 U*	6.2 U	6.5 U	6.5 U	6.6 U	6.4 U	6.6 U
1,3-Dichlorobenzene	*7.5 U*	7.3 U	6.9 U	*5.5 U*	6.2 U	6.5 U	6.5 U	6.6 U	6.4 U	6.6 U
1,4-Dichlorobenzene	*7.5 U*	7.3 U	6.9 U	*5.5 U*	6.2 U	6.5 U	6.5 U	6.6 U	6.4 U	6.6 U
1,2-Dichlorobenzene	*7.5 U*	7.3 U	6.9 U	*5.5 U*	6.2 U	6.5 U	6.5 U	6.6 U	6.4 U	6.6 U
1,2-Dibromo-3-chloropropane	*7.5 U*	7.3 U	6.9 U	*5.5 U*	6.2 U	6.5 U	6.5 U	6.6 U	6.4 U	6.6 U
1,2,4-Trichlorobenzene	*7.5 U*	7.3 U	6.9 U	*5.5 U*	6.2 U	6.5 U	6.5 U	6.6 U	6.4 U	6.6 U
1,2,3-Trichlorobenzene	*7.5 U*	7.3 U	6.9 U	*5.5 U*	6.2 U	6.5 U	6.5 U	6.6 U	6.4 U	6.6 U

J The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.
U The analyte was not detected above the CRQL.
UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.
ND Not detected.
NA Not analyzed.
µg/kg micrograms per kilogram
ppb parts per billion
Italic Background sample
X.X Analytical Result > 3 x background value = observed contamination

TABLE 27
SVOCs in Sediment
Units of µg/kg (ppb)

Field Sample ID:	SSSE01	SSSE02	SSSE03	SSSE04	SSSE05	SSSE06	SSSE07	SSSE08	SSSE09	SSSE10
Laboratory Sample ID:	H30S8	H30S9	H30T0	H30T1	H30T2	H30T3	H30T4	H30T5	H30T6	H30T7
	BACKGROUND			BACKGROUND						
Location:	Grab sample collected from O'Keefe Creek immediately upstream of the PPE from the landfarm area	Grab sample collected from O'Keefe Creek immediately downstream of the PPE from the landfarm area	Grab sample collected from O'Keefe Creek immediately downstream of sludge pond 17	Grab sample collected from the Clark Fork River immediately upstream of potential source areas of the mill	Grab sample collected from the Clark Fork River adjacent to pond 2	Grab sample collected from the Clark Fork River immediately downstream of outfall 1	Grab sample collected from the Clark Fork River immediately downstream of outfall 2	Grab sample collected from Clark Fork River adjacent to pond 13	Grab sample collected from the Clark Fork River immediately downstream of outfall 3	Grab sample collected from the Clark Fork River immediately downstream of outfall 4
Analytes	(µg/Kg)									
Benzaldehyde	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
Phenol	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
Bis(2-chloroethyl)ether	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
2-Chlorophenol	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
2-Methylphenol	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
2,2'-Oxybis(1-chloropropane)	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
Acetophenone	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
4-Methylphenol	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
N-Nitroso-di-n-propylamine	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
Hexachloroethane	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
Nitrobenzene	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
Isophorone	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
2-Nitrophenol	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
2,4-Dimethylphenol	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
Bis(2-chloroethoxy)methane	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
2,4-Dichlorophenol	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
Naphthalene	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
4-Chloroaniline	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
Hexachlorobutadiene	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
Caprolactam	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
4-Chloro-3-methylphenol	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
2-Methylnaphthalene	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
Hexachlorocyclopentadiene	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
2,4,6-Trichlorophenol	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
2,4,5-Trichlorophenol	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
1,1'-Biphenyl	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
2-Chloronaphthalene	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
2-Nitroaniline	*490 U*	490 U	450 U	*360 U*	430 U	420 U	410 U	430 U	420 U	430 U
Dimethylphthalate	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
2,6-Dinitrotoluene	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
Acenaphthylene	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	350
3-Nitroaniline	*490 U*	490 U	450 U	*360 U*	430 U	420 U	410 U	430 U	420 U	430 U
Acenaphthene	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	290

TABLE 27
SVOCs in Sediment
Units of µg/kg (ppb)

Field Sample ID:	SSSE01	SSSE02	SSSE03	SSSE04	SSSE05	SSSE06	SSSE07	SSSE08	SSSE09	SSSE10
Laboratory Sample ID:	H30S8	H30S9	H30T0	H30T1	H30T2	H30T3	H30T4	H30T5	H30T6	H30T7
	BACKGROUND			BACKGROUND						
Location:	Grab sample collected from O'Keefe Creek immediately upstream of the PPE from the landfarm area	Grab sample collected from O'Keefe Creek immediately downstream of the PPE from the landfarm area	Grab sample collected from O'Keefe Creek immediately downstream of sludge pond 17	Grab sample collected from the Clark Fork River immediately upstream of potential source areas of the mill	Grab sample collected from the Clark Fork River adjacent to pond 2	Grab sample collected from the Clark Fork River immediately downstream of outfall 1	Grab sample collected from the Clark Fork River immediately downstream of outfall 2	Grab sample collected from Clark Fork River adjacent to pond 13	Grab sample collected from the Clark Fork River immediately downstream of outfall 3	Grab sample collected from the Clark Fork River immediately downstream of outfall 4
Analytes	(µg/Kg)									
2,4-Dinitrophenol	*490 U*	490 U	450 U	*360 U*	430 U	420 U	410 U	430 U	420 U	430 U
4-Nitrophenol	*490 U*	490 U	450 U	*360 U*	430 U	420 U	410 U	430 U	420 U	430 U
Dibenzofuran	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
2,4-Dinitrotoluene	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
Diethylphthalate	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
Fluorene	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
4-Chlorophenyl-phenylether	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
4-Nitroaniline	*490 U*	490 U	450 U	*360 U*	430 U	420 U	410 U	430 U	420 U	430 U
4,6-Dinitro-2-methylphenol	*490 U*	490 U	450 U	*360 U*	430 U	420 U	410 U	430 U	420 U	430 U
N-Nitrosodiphenylamine	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
1,2,4,5-Tetrachlorobenzene	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
4-Bromophenyl-phenylether	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
Hexachlorobenzene	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
Atrazine	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
Pentachlorophenol	*490 U*	490 U	450 U	*360 U*	430 U	420 U	410 U	430 U	420 U	430 U
Phenanthrene	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
Anthracene	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
Carbazole	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
Di-n-butylphthalate	*250 U*	250 U	230 U	*40 J*	220 U	44 J	210 U	52 J	220 U	220 U
Fluoranthene	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
Pyrene	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
Butylbenzylphthalate	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
3,3'-Dichlorobenzidine	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
Benzo(a)anthracene	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	140 J
Chrysene	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	98 J
Bis(2-ethylhexyl)phthalate	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	90 J	220 U
Di-n-octylphthalate	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
Benzo(b)fluoranthene	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	62 J
Benzo(k)fluoranthene	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
Benzo(a)pyrene	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
Indeno(1,2,3-cd)pyrene	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
Dibenzo(a,h)anthracene	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U
Benzo(g,h,i)perylene	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U

TABLE 27
SVOCs in Sediment
Units of µg/kg (ppb)

Field Sample ID:	SSSE01	SSSE02	SSSE03	SSSE04	SSSE05	SSSE06	SSSE07	SSSE08	SSSE09	SSSE10
Laboratory Sample ID:	H30S8	H30S9	H30T0	H30T1	H30T2	H30T3	H30T4	H30T5	H30T6	H30T7
	BACKGROUND			BACKGROUND						
Location:	Grab sample collected from O'Keefe Creek immediately upstream of the PPE from the landfarm area	Grab sample collected from O'Keefe Creek immediately downstream of the PPE from the landfarm area	Grab sample collected from O'Keefe Creek immediately downstream of sludge pond 17	Grab sample collected from the Clark Fork River immediately upstream of potential source areas of the mill	Grab sample collected from the Clark Fork River adjacent to pond 2	Grab sample collected from the Clark Fork River immediately downstream of outfall 1	Grab sample collected from the Clark Fork River immediately downstream of outfall 2	Grab sample collected from Clark Fork River adjacent to pond 13	Grab sample collected from the Clark Fork River immediately downstream of outfall 3	Grab sample collected from the Clark Fork River immediately downstream of outfall 4
Analytes	(µg/Kg)									
2,3,4,6-Tetrachlorophenol	*250 U*	250 U	230 U	*180 U*	220 U	210 U	210 U	220 U	220 U	220 U

J The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.
U The analyte was not detected above the CRQL.
UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.
ND Not detected.
NA Not analyzed.
µg/kg micrograms per kilogram
ppb parts per billion
Italic Background sample
X.X Analytical Result > 3 x background value = observed contamination

TABLE 28
Total Metals in Sediment
Units of mg/kg (ppm)

Field Sample ID:	SSSE01	SSSE02	SSSE03	SSSE04	SSSE05	SSSE06	SSSE07	SSSE08	SSSE09	SSSE10
Laboratory Sample ID:	H30S8	H30S9	H30T0	H30T1	H30T2	H30T3	H30T4	H30T5	H30T6	H30T7
	BACKGROUND			BACKGROUND						
Location:	Grab sample collected from O'Keefe Creek immediately upstream of the PPE from the landfarm area	Grab sample collected from O'Keefe Creek immediately downstream of the PPE from the landfarm area	Grab sample collected from O'Keefe Creek immediately downstream of sludge pond 17	Grab sample collected from the Clark Fork River immediately upstream of potential source areas of the mill	Grab sample collected from the Clark Fork River adjacent to pond 2	Grab sample collected from the Clark Fork River immediately downstream of outfall 1	Grab sample collected from the Clark Fork River immediately downstream of outfall 2	Grab sample collected from Clark Fork River adjacent to pond 13	Grab sample collected from the Clark Fork River immediately downstream of outfall 3	Grab sample collected from the Clark Fork River immediately downstream of outfall 4
Analytes	(µg/Kg)									
Dilution Factor										
Aluminum	*9,430*	10,000	4,440	*1,890*	3,590	2,090	2,460	5,490	4,200	3,190
Antimony	*0.47 J+*	0.5 J+ (0.3)	7.7 U	*6.1 U*	0.34 J (0.17)	0.37 J (0.19)	0.35 J (0.18)	0.49 J+ (0.25)	0.52 J (0.26)	0.52 J (0.26)
Arsenic	*6.5 J+*	9.1	2.5	*5.0*	3.0	2.7	2.9	4.2 J+	9.2	6.5
Barium	*249*	221	106	*27.7*	71.6	32.2	30.7	117	113	82.1
Beryllium	*0.89 J+*	0.93 J+ (0.73)	0.37 J (0.29)	*0.2 J (0.26)*	0.34 J (0.27)	0.22 J (0.17)	0.23 J (0.18)	0.54 J+ (0.42)	0.41 J (0.32)	0.33 J (0.26)
Cadmium	*0.73 J+*	0.8	0.37 J (0.26)	*0.41 J (0.58)*	0.51	0.29 J (0.21)	0.37 J (0.26)	0.47 J+ (0.33)	0.74	0.57 J (0.40)
Calcium	*3,330*	3,230	1,700	*803*	1,660	1,320	1,410	2,510	3,220	2,670
Chromium	*9.0*	9.8	5.0	*2.6*	5.1	3.7	4.3	8.4	6.5	7.0
Cobalt	*10.9*	9.6	3.5 J (2.8)	*2 J (2.5)*	2 J (1.6)	1.6 J (1.3)	1.7 J (1.4)	3.2 J (2.6)	3.1 J (2.5)	2.5 J (2.0)
Copper	*17.4*	19.4	9.8	*38.9*	34.8	17.4	15.5	17	73.3	43.2
Iron	*15000*	16600	7330	*5210*	6340	5670	6980	9820	8840	8040
Lead	*16.5*	12.2	5.7	*6.6*	8.4	5.4	4.8	7.8	14.8	10.6
Magnesium	*4,680*	4,870	2,410	*1,680*	2,080	1,720	1,970	3,450	3,230	2,580
Manganese	*444*	849	160	*163*	70.4	62.6	85.5	131	251	201
Nickel	*10.8*	10.7	5 J (3.7)	*2.9 J (3.9)*	3.6 J (2.7)	2.8 J (2.1)	3.9	6.3	5.2	5.1 J (3.8)
Potassium	*1,580*	1,620	885	*303 J-*	672	387 J-	388 J-	994	857	583 J-
Selenium	*5 U*	4.2 U	4.5 U	*3.5 U*	3.4 U	3.9 U	3.4 U	3.5 U	3.3 U	4.8 U
Silver	*1.4 UJ*	1.2 UJ	1.3 U	*1 U*	0.97 U	1.1 U	0.96 U	1 UJ	0.95 U	1.4 U
Sodium	*194 J (4933)*	163 J (6.41)	127 J (5.00)	*93.1 J (2367)*	105 J (4.13)	188 J (7.39)	146 J (5.74)	438 J (17.22)	118 J (4.64)	99 J (3.89)
Thallium	*3.6 U*	3 U	3.2 U	*2.5 U*	2.4 U	2.8 U	2.4 U	2.5 U	2.4 U	3.4 U
Vanadium	*15.7*	16.0	8.1	*5.0 U*	9.3	10.0	12.4	14.5	13.0	15.2
Zinc	*57.7*	50.5	41.4	*54.2*	86.6	58.8	59.4	42.6	156	127

J The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.
U The analyte was not detected above the CRQL.
UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.
J+ The associated numerical value is an estimated quantity but the result may be biased high.
J- The associated numerical value is an estimated quantity but the result may be biased low.
RDSC Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration
CRSC Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration
mg/kg milligrams per kilogram
ppm parts per million
Italic Background sample
X.X Analytical Result > 3 x background value = observed contamination

TABLE 29
PCBs in Groundwater
Units of µg/L (ppb)

Field Sample ID: **Laboratory Sample ID:** **Location:** **Analytes**	**Superfund Chemical Data Matrix (SCDM) RDSC**	**Superfund Chemical Data Matrix (SCDM) CRSC**	**MCL/MCLG**	**MDEQ Circular 7 Human Health Standards (Groundwater)**	**SSGW01** **H30X0** **BACKGROUND** **Shallow aquifer groundwater grab sample collected from existing monitoring well located upgradient of mill (e.g., SMW-20)**	**SSGW02** **H30X1** **BACKGROUND** **Deeper aquifer groundwater grab sample collected from existing production well located upgradient of mill (production deep well #11)**	**SSGW03** **H30X2** **Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of sludge pond 17**	**SSGW04** **H30X3** **Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of sludge pond 3**	**SSGW05** **H30X4** **Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of landfill A**	**SSGW07** **H30X6** **Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of sludge pond 5**	**SSGW08** **H30X7** **Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of landfill 6**
Aroclor-1016	-	-	-	-	*1 U*	*1 U*	1 UJ	1 UJ	1 R	1 UJ	1 UJ
Aroclor-1221	-	-	-	-	*1 U*	*1 U*	1 UJ	1 UJ	1 R	1 UJ	1 UJ
Aroclor-1232	-	-	-	-	*1 U*	*1 U*	1 UJ	1 UJ	1 R	1 UJ	1 UJ
Aroclor-1242	-	-	-	-	*1 U*	*1 U*	1 UJ	1 UJ	1 R	1 UJ	1 UJ
Aroclor-1248	-	-	-	-	*1 U*	*1 U*	1 UJ	1 UJ	1 R	1 UJ	1 UJ
Aroclor-1254	-	-	-	-	*1 U*	*1 U*	1 UJ	1 UJ	1 R	1 UJ	1 UJ
Aroclor-1260	-	-	-	-	*1 U*	*1 U*	1 UJ	1 UJ	1 R	1 UJ	1 UJ
Aroclor-1262	-	-	-	-	*1 U*	*1 U*	1 UJ	1 UJ	1 R	1 UJ	1 UJ
Aroclor-1268	-	-	-	-	*1 U*	*1 U*	1 UJ	1 UJ	1 R	1 UJ	1 UJ

J	The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.
R	Reported value is "rejected". Resampling or reanalysis may be necessary to verify the presence or absence of the compound.
U	The analyte was not detected above the CRQL.
UJ	The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.
MDEQ	Montana Department of Environmental Quality
RDSC	Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration
CRSC	Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration
MCLG	Maximum Contaminant Level Goal. A non-enforceable health goal that is set at a level at which no known or anticipated adverse effect on the health of persons occurs and which allows an adequate margin of safety.
MCL	Maximum Contaminant Level. The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLG as feasible using the best available analytical and treatment technologies and taking cost into consideration. MCLs are enforceable standards.
ug/L	microgram per liter
ppb	parts per billion
Italic	Background sample
X.X	Analytical Result > 3 x background value = observed contamination
☆	Concentration is > benchmark

Sources: EPA 2011 (CLP limits and Low Concentration Detection Limits); MDEQ 2010 (Circular DEQ-7, Montana Numeric Water Quality Standards); EPA 2011 (SCDM)

TABLE 29, continued
PCBs in Groundwater
Units of µg/L (ppb)

Field Sample ID: Laboratory Sample ID: Location: Analytes	Superfund Chemical Data Matrix (SCDM) RDSC	Superfund Chemical Data Matrix (SCDM) CRSC	MCL/ MCLG	MDEQ Circular 7 Human Health Standards (Groundwater)	SSGW10 H30X9 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of pond 20 (landfill E)	SSGW89 H30Z9 Duplicate of sample SSGW10	Relative Percentage Difference (RPD)	SSGW11 H30Y0 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located downgradient of aeration basins	SSGW12 H30Y1 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of landfill G	SSGW13 H30Y2 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-14 (adjacent to Clark Fork River)	SSGW14 H30Y3 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-13 (adjacent to Clark Fork River)	SSGW15 H30Y4 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-17 (downgradient of most potential sources)	SSGW16 H30Y5 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-11 (adjacent to Clark Fork River)
Aroclor-1016	-	-	-	-	1 UJ	1 UJ	-	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Aroclor-1221	-	-	-	-	1 UJ	1 UJ	-	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Aroclor-1232	-	-	-	-	1 UJ	1 UJ	-	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Aroclor-1242	-	-	-	-	1 UJ	1 UJ	-	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Aroclor-1248	-	-	-	-	1 UJ	1 UJ	-	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Aroclor-1254	-	-	-	-	1 UJ	1 UJ	-	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Aroclor-1260	-	-	-	-	1 UJ	1 UJ	-	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Aroclor-1262	-	-	-	-	1 UJ	1 UJ	-	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Aroclor-1268	-	-	-	-	1 UJ	1 UJ	-	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ

J The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.
R Reported value is "rejected". Resampling or reanalysis may be necessary to verify the presence or absence of the compound.
U The analyte was not detected above the CRQL.
UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.
MDEQ Montana Department of Environmental Quality
RDSC Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration
CRSC Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration
pg/L pico-gram per liter
ppb parts per billion
Italic Background sample
X.X Analytical Result > 3 x background value = observed contamination
☆ Concentration is > benchmark

Sources: EPA 2011 (CLP limits and Low Concentration Detection Limits); MDEQ 2010 (Circular DEQ-7, Montana Numeric Water Quality Standards); EPA 2011 (SCDM)

TABLE 29, continued
PCBs in Groundwater
Units of µg/L (ppb)

Field Sample ID: Laboratory Sample ID: Location: Analytes	Superfund Chemical Data Matrix (SCDM) RDSC	Superfund Chemical Data Matrix (SCDM) CRSC	MCL/ MCLG	MDEQ Circular 7 Human Health Standards (Groundwater)	SSGW17 H30Y6 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-19 (downgradient of most potential sources)	SSGW18 H30Y7 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-10 (adjacent to Clark Fork River)	SSGW23 H30Z2 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (15762 Marcure Lane)	SSGW24 H30Z3 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (15700 Marcure Lane)	SSGW25 H30Z4 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (15740 Marcure Lane)	SSGW26 H30Z5 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (15400 Marcure Lane)	SSGW99 H30Z8 Duplicate of sample SSGW26	Relative Percentage Difference (RPD)	SSGW27 H30Z6 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (Clark Fork Cattle Ranch well)
Aroclor-1016	-	-	-	-	1 UJ	1 R	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	-	1 UJ
Aroclor-1221	-	-	-	-	1 UJ	1 R	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	-	1 UJ
Aroclor-1232	-	-	-	-	1 UJ	1 R	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	-	1 UJ
Aroclor-1242	-	-	-	-	1 UJ	1 R	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	-	1 UJ
Aroclor-1248	-	-	-	-	1 UJ	1 R	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	-	1 UJ
Aroclor-1254	-	-	-	-	1 UJ	1 R	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	-	1 UJ
Aroclor-1260	-	-	-	-	1 UJ	1 R	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	-	1 UJ
Aroclor-1262	-	-	-	-	1 UJ	1 R	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	-	1 UJ
Aroclor-1268	-	-	-	-	1 UJ	1 R	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	-	1 UJ

J The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.
R Reported value is "rejected". Resampling or reanalysis may be necessary to verify the presence or absence of the compound.
U The analyte was not detected above the CRQL.
UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.
MDEQ Montana Department of Environmental Quality
RDSC Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration
CRSC Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration
pg/L pico-gram per liter
ppb parts per billion
Italic Background sample
X.X Analytical Result > 3 x background value = observed contamination
☆ Concentration is > benchmark

Sources: EPA 2011 (CLP limits and Low Concentration Detection Limits); MDEQ 2010 (Circular DEQ-7, Montana Numeric Water Quality Standards); EPA 2011 (SCDM)

TABLE 30
Dioxins and Furans in Groundwater
Units of pg/L (ppq)

Field Sample ID: Laboratory Sample ID: Location: Analytes	MCL/MCLG	Superfund Chemical Data Matrix (SCDM) RDSC	Superfund Chemical Data Matrix (SCDM) CRSC	MDEQ Human Health Standards (Groundwater)	SSGW01 L1080162-23 BACKGROUND Shallow aquifer groundwater grab sample collected from existing monitoring well located upgradient of mill (e.g., SMW-20)	WHO TEF Concentration	SSGW02 L1080162-24 BACKGROUND Deeper aquifer groundwater grab sample collected from existing production well located upgradient of mill (production deep well #11)	WHO TEF Concentration	SSGW03 L1081891-1 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of sludge pond 17	WHO TEF Concentration	SSGW04 L1081891-2 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of sludge pond 3	WHO TEF Concentration
2,3,7,8-TCDD	30	-	0.57	-	*0.27 U*	0.13500 U	*0.33 U*	0.16500 U	1 U	0.50000 U	6.4 ☆	6.40000
1,2,3,7,8-PeCDD	-	-	1.1	-	*0.84 U*	0.42000 U	*0.73 U*	0.36500 U	1 U	0.50000 U	8.2 J ☆	8.20000 J
1,2,3,4,7,8-HxCDD	-	-	14	-	*0.88 U*	0.04400 U	*0.36 U*	0.01800 U	0.75 U	0.03750 U	5 J	0.50000 J
1,2,3,6,7,8-HxCDD	-	-	14	-	*0.9 U*	0.04500 U	*0.36 U*	0.01800 U	0.81 UJ	0.03950 UJ	51.2 ☆	5.12000
1,2,3,7,8,9-HxCDD	-	-	14	-	*0.9 U*	0.04500 U	*0.36 U*	0.01800 U	1.3 UJ	0.03900 UJ	20 J ☆	2.00000 J
1,2,3,4,6,7,8-HpCDD	-	-	570	-	*2.9 J*	0.02900 J	*0.81 U*	0.00405 U	7.4 J	0.07400 J	426	4.26000
OCDD	-	-	-	-	*29*	0.00870	*3.8 U*	0.00023 U	28.4	0.00852	2790	0.83700
Total-TCDD	-	-	-	-	*0.27 U*	-	*0.33 U*	-	1 U	-	152	-
Total TCDD # Homologues	-	-	-	-	*0*	-	*0*	-	0	-	8	-
Total-PeCDD	-	-	-	-	*0.84 U*	-	*0.73 U*	-	1 U	-	116	-
Total PeCDD # Homologues	-	-	-	-	*0*	-	*0*	-	0	-	6	-
Total-HxCDD	-	-	-	-	*0.9 U*	-	*0.36 U*	-	3.45	-	324	-
Total HxCDD # Homologues	-	-	-	-	*0*	-	*0*	-	1	-	4	-
Total-HpCDD	-	-	-	-	*2.9*	-	*0.81 U*	-	1 U	-	749	-
Total HpCDD # Homologues	-	-	-	-	*1*	-	*0*	-	0	-	2	-
2,3,7,8-TCDF	-	-	5.7	-	*0.2 U*	0.01000 U	*0.3 U*	0.01500 U	0.97 U	0.04850 U	35.9 ☆	3.59000
1,2,3,7,8-PeCDF	-	-	-	-	*0.51 U*	0.00765 U	*0.46 U*	0.00690 U	0.69 J	0.02070 J	11 J	0.33000 J
2,3,4,7,8-PeCDF	-	-	5.7	-	*0.44 U*	0.06600 U	*0.5 UJ*	0.05550 UJ	0.88 U	0.06300 U	18.6 ☆	5.58000
1,2,3,4,7,8-HxCDF	-	-	57	-	*0.48 U*	0.02400 U	*0.29 U*	0.01450 U	0.61 U	0.03050 U	6.13 J	0.61300 J
1,2,3,6,7,8-HxCDF	-	-	57	-	*0.48 U*	0.02400 U	*0.29 U*	0.01450 U	0.6 U	0.03000 U	6.7 J	0.67000 J
1,2,3,7,8,9-HxCDF	-	-	57	-	*0.6 U*	0.03000 U	*0.35 U*	0.01750 U	0.95 U	0.04000 U	1.8 U	0.07000 U
2,3,4,6,7,8-HxCDF	-	-	57	-	*0.51 U*	0.02550 U	*0.29 U*	0.01450 U	0.61 U	0.03050 U	7.1 J	0.71000 J
1,2,3,4,6,7,8-HpCDF	-	-	570	-	*0.61 U*	0.00305 U	*0.44 U*	0.00220 U	0.99 UJ	0.00305 UJ	14 J	0.14000 J
1,2,3,4,7,8,9-HpCDF	-	-	570	-	*0.88 U*	0.00440 U	*0.66 U*	0.00330 U	1.07 U	0.00490 U	3.9 U	0.01950 U
OCDF	-	-	-	-	*1.4 U*	0.00021 U	*1.1 U*	0.00017 U	2.3 U	0.00018 U	14.2 U	0.00056 U
Total-TCDF	-	-	-	-	*0.2 U*	-	*0.3 U*	-	0.97 U	-	317	-
Total TCDF # Homologues	-	-	-	-	*0*	-	*0*	-	0	-	13	-
Total-PeCDF	-	-	-	-	*0.51 U*	-	*0.46 U*	-	1.58	-	136	-
Total PeCDF # Homologues	-	-	-	-	*0*	-	*0*	-	2	-	10	-
Total-HxCDF	-	-	-	-	*0.6 U*	-	*0.35 U*	-	2.1 U	-	20.4	-
Total HxCDF # Homologues	-	-	-	-	*0*	-	*0*	-	3	-	5	-
Total-HpCDF	-	-	-	-	*0.88 U*	-	*0.66 U*	-	1.33	-	23.6	-

TABLE 30
Dioxins and Furans in Groundwater
Units of pg/L (ppq)

Field Sample ID: Laboratory Sample ID: Location: Analytes	MCL/MCLG	Superfund Chemical Data Matrix (SCDM) RDSC	Superfund Chemical Data Matrix (SCDM) CRSC	MDEQ Human Health Standards (Groundwater)	SSGW01 L1080162-23 BACKGROUND Shallow aquifer groundwater grab sample collected from existing monitoring well located upgradient of mill (e.g., SMW-20)	WHO TEF Concentration	SSGW02 L1080162-24 BACKGROUND Deeper aquifer groundwater grab sample collected from existing production well located upgradient of mill (production deep well #11)	WHO TEF Concentration	SSGW03 L1081891-1 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of sludge pond 17	WHO TEF Concentration	SSGW04 L1081891-2 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of sludge pond 3	WHO TEF Concentration
Total HpCDF # Homologues	-	-	-	-	*0*	-	*0*	-	2	-	1	-
WHO TEQ	-	-	-	2	-	0.92151	-	0.73234	-	1.46985	-	39.04006☆

J The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.
U The analyte was not detected above the CRQL.
UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.
MDEQ Montana Department of Environmental Quality
RDSC Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration
CRSC Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration
WHO TEQ World Health Organization Toxicity Equivalent
WHO TEF Conc. World Health Organization Toxicity Equivalence Factor Concentration
pg/L pico-gram per liter
ppq parts per quadrillion
Italic Background sample
X.X Analytical Result > 3 x background value = observed contamination
☆ Concentration is > benchmark

Sources: EPA 2011 (CLP limits and Low Concentration Detection Limits); MDEQ 2010 (Circular DEQ-7, Montana Numeric Water Quality Standards); EPA 2011 (SCDM)

TABLE 30, continued
Dioxins and Furans in Groundwater
Units of pg/L (ppq)

Field Sample ID: Laboratory Sample ID: Location: Analytes	MCL/MCLG	Superfund Chemical Data Matrix (SCDM) RDSC	Superfund Chemical Data Matrix (SCDM) CRSC	MDEQ Human Health Standards (Groundwater)	SSGW05 L1081891-3 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of landfill A	WHO TEF Concentration	SSGW07 L1081891-4 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of sludge pond 5	WHO TEF Concentration	SSGW08 L1081891-5 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of landfill 6	WHO TEF Concentration
2,3,7,8-TCDD	30	-	0.57	-	4.2 ☆	4.20000	1.5 U	0.75000 U	1.6 U	0.80000 U
1,2,3,7,8-PeCDD	-	-	1.1	-	4.6 J ☆	4.60000 J	1.7 U	0.85000 U	2.3 UJ	1.15000 UJ
1,2,3,4,7,8-HxCDD	-	-	14	-	3.3 U	0.16500 U	1.9 U	0.09500 U	2 U	0.10000 U
1,2,3,6,7,8-HxCDD	-	-	14	-	23 J ☆	2.30000 J	1.9 U	0.09500 U	1.9 U	0.09500 U
1,2,3,7,8,9-HxCDD	-	-	14	-	12.1 J	1.21000 J	1.9 U	0.09500 U	1.9 U	0.09500 U
1,2,3,4,6,7,8-HpCDD	-	-	570	-	546	5.46000	30.3	0.30300	20	0.20000
OCDD	-	-	-	-	5150	1.54500	395	0.11850	57.2	0.01716
Total-TCDD	-	-	-	-	4.2	-	1.5 U	-	1.6 U	-
Total TCDD # Homologues	-	-	-	-	1	-	0	-	0	-
Total-PeCDD	-	-	-	-	22 J	-	1.7 U	-	2.3 UJ	-
Total PeCDD # Homologues	-	-	-	-	4	-	0	-	0	-
Total-HxCDD	-	-	-	-	134	-	6.3	-	2 U	-
Total HxCDD # Homologues	-	-	-	-	3	-	1	-	0	-
Total-HpCDD	-	-	-	-	1040	-	56	-	33.4	-
Total HpCDD # Homologues	-	-	-	-	2	-	2	-	2	-
2,3,7,8-TCDF	-	-	5.7	-	29.8 J ☆	2.98000 J	2.1 J	0.21000 J	2.6 J	0.26000 J
1,2,3,7,8-PeCDF	-	-	-	-	4.6 J	0.13800 J	0.95 U	0.01425 U	1.3 U	0.01950 U
2,3,4,7,8-PeCDF	-	-	5.7	-	9.5 J ☆	2.85000 J	0.89 U	0.13350 U	1.3 UJ	0.19500 UJ
1,2,3,4,7,8-HxCDF	-	-	57	-	5 UJ	0.09000 UJ	0.68 U	0.03400 U	0.61 U	0.03050 U
1,2,3,6,7,8-HxCDF	-	-	57	-	4.4 J	0.44000 J	0.68 U	0.03400 U	0.64 U	0.03200 U
1,2,3,7,8,9-HxCDF	-	-	57	-	2.6 U	0.13000 U	0.95 U	0.04750 U	0.85 U	0.04250 U
2,3,4,6,7,8-HxCDF	-	-	57	-	6.2 J	0.62000 J	0.74 U	0.03700 U	0.69 U	0.03450 U
1,2,3,4,6,7,8-HpCDF	-	-	570	-	52.1	0.52100	2 UJ	0.00435 UJ	0.95 U	0.00475 U
1,2,3,4,7,8,9-HpCDF	-	-	570	-	6.7 U	0.03350 U	1.4 U	0.00700 U	1.6 U	0.00800 U
OCDF	-	-	-	-	90.1	0.02703	6.8 UJ	0.00045 UJ	3.4 U	-
Total-TCDF	-	-	-	-	98.7 J	-	2.21	-	1.3 UJ	-
Total TCDF # Homologues	-	-	-	-	7	-	1	-	0	-
Total-PeCDF	-	-	-	-	61.8 J	-	0.95 U	-	1.3 UJ	-
Total PeCDF # Homologues	-	-	-	-	7	-	0	-	0	-
Total-HxCDF	-	-	-	-	78.7	-	1.38 U	-	0.85 U	-
Total HxCDF # Homologues	-	-	-	-	3	-	1	-	0	-
Total-HpCDF	-	-	-	-	156	-	1.4 U	-	1.6 U	-
Total HpCDF # Homologues	-	-	-	-	3	-	0	-	0	-

TABLE 30, continued
Dioxins and Furans in Groundwater
Units of pg/L (ppq)

Field Sample ID: Laboratory Sample ID: Location: Analytes	MCL/MCLG	Superfund Chemical Data Matrix (SCDM) RDSC	Superfund Chemical Data Matrix (SCDM) CRSC	MDEQ Human Health Standards (Groundwater)	SSGW05 L1081891-3 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of landfill A	WHO TEF Concentration	SSGW07 L1081891-4 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of sludge pond 5	WHO TEF Concentration	SSGW08 L1081891-5 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of landfill 6	WHO TEF Concentration
WHO TEQ	-	-	-	2	-	27.30953☆	-	2.82855☆	-	3.08391☆

J The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.
U The analyte was not detected above the CRQL.
UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.
MDEQ Montana Department of Environmental Quality
RDSC Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration
CRSC Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration
WHO TEQ World Health Organization Toxicity Equivalent
WHO TEF Conc. World Health Organization Toxicity Equivalence Factor Concentration
pg/L pico-gram per liter
ppq parts per quadrillion
Italic Background sample
X.X Analytical Result > 3 x background value = observed contamination
☆ Concentration is > benchmark

Sources: EPA 2011 (CLP limits and Low Concentration Detection Limits); MDEQ 2010 (Circular DEQ-7, Montana Numeric Water Quality Standards); EPA 2011 (SCDM)

TABLE 30, continued
Dioxins and Furans in Groundwater
Units of pg/L (ppq)

Field Sample ID: Laboratory Sample ID: Location: Analytes	MCL/ MCLG	Superfund Chemical Data Matrix (SCDM) RDSC	Superfund Chemical Data Matrix (SCDM) CRSC	MDEQ Human Health Standards (Groundwater)	SSGW10 L1081891-6 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of Pond 20 (landfill E)	WHO TEF Concentration	SSGW89 L1081891-18 Duplicate of sample SSGW10	WHO TEF Concentration	Relative Percentage Difference (RPD)	SSGW11 L1081891-9 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located downgradient of aeration basins	WHO TEF Concentration	SSGW12 L1081891-10 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of landfill G	WHO TEF Concentration
2,3,7,8-TCDD	30	-	0.57	-	1.4 U	0.70000 U	1.6 U	0.80000 U	-	1.4 U	0.70000 U	3.3 J ☆	3.30000 J
1,2,3,7,8-PeCDD	-	-	1.1	-	1.3 U	0.65000 U	1.4 U	0.70000 U	-	1.5 U	0.75000 U	1.6 J ☆	1.60000 J
1,2,3,4,7,8-HxCDD	-	-	14	-	0.93 U	0.04650 U	0.8 U	0.04000 U	-	1.1 U	0.05500 U	1.3 UJ	0.02600 UJ
1,2,3,6,7,8-HxCDD	-	-	14	-	3.2 UJ	0.04550 UJ	3.5 UJ	0.00425 UJ	-	5.5 J	0.55000 J	7.6 J	0.76000 J
1,2,3,7,8,9-HxCDD	-	-	14	-	1.6 UJ	0.04650 UJ	1.6 UJ	0.04150 UJ	-	3.4 UJ	0.05500 UJ	5.25 U	0.02650 U
1,2,3,4,6,7,8-HpCDD	-	-	570	-	29.2	0.29200	25.5	0.25500	7	35	0.35000	115	1.15000
OCDD	-	-	-	-	214	0.06420	209	0.06270	1	169	0.05070	967	0.29010
Total-TCDD	-	-	-	-	1.4 U	-	1.6 U	-	-	1.4 U	-	1 U	-
Total TCDD # Homologues	-	-	-	-	0	-	0	-	0	0	-	0	-
Total-PeCDD	-	-	-	-	1.3 U	-	1.4 U	-	-	1.5 U	-	4.4	-
Total PeCDD # Homologues	-	-	-	-	0	-	0	-	0	0	-	4	-
Total-HxCDD	-	-	-	-	16.4	-	0.85 U	-	90	1.1 U	-	37.8	-
Total HxCDD # Homologues	-	-	-	-	1	-	0	-	100	0	-	3	-
Total-HpCDD	-	-	-	-	63.6	-	51.9	-	10	35	-	241	-
Total HpCDD # Homologues	-	-	-	-	2	-	2	-	0	1	-	2	-
2,3,7,8-TCDF	-	-	5.7	-	1 U	0.05000 U	2.1 U	0.10500 U	-	1.6 U	0.08000 U	5 J	0.50000 J
1,2,3,7,8-PeCDF	-	-	-	-	0.72 U	0.01080 U	0.88 U	0.01320 U	-	0.95 U	0.01425 U	0.81 U	0.01215 U
2,3,4,7,8-PeCDF	-	-	5.7	-	0.65 U	0.09750 U	0.76 U	0.07800 U	-	0.96 UJ	0.12600 UJ	1.2 UJ	0.10500 UJ
1,2,3,4,7,8-HxCDF	-	-	57	-	0.52 U	0.02600 U	0.49 U	0.03200 U	-	0.7 U	0.03500 U	0.99 U	0.02600 U
1,2,3,6,7,8-HxCDF	-	-	57	-	0.53 U	0.02650 U	0.47 U	0.02400 U	-	0.7 U	0.03500 U	0.78 J	0.07800 J
1,2,3,7,8,9-HxCDF	-	-	57	-	0.71 U	0.03550 U	0.64 U	0.03200 U	-	0.96 U	0.04800 U	0.68 U	0.03400 U
2,3,4,6,7,8-HxCDF	-	-	57	-	0.56 U	0.02800 U	0.52 U	0.02600 U	-	0.74 U	0.03700 U	0.94 UJ	0.02750 UJ
1,2,3,4,6,7,8-HpCDF	-	-	570	-	2.4 UJ	0.00325 UJ	3.99 J	0.03990 J	-	1.23 U	0.00180 U	2.4 UJ	0.00455 UJ
1,2,3,4,7,8,9-HpCDF	-	-	570	-	1.1 U	0.00550 U	0.73 U	0.00730 U	-	0.57 U	0.00285 U	1.9 UJ	0.00700 UJ
OCDF	-	-	-	-	9.2 UJ	0.00023 UJ	15.5 J	0.00465 J	-	1.3 UJ	0.00018 UJ	5.3 UJ	0.00023 UJ
Total-TCDF	-	-	-	-	1.5	-	2.1 U	-	-	2.2	-	2.86	-
Total TCDF # Homologues	-	-	-	-	1	-	0	-	100	1	-	1	-
Total-PeCDF	-	-	-	-	0.72 U	-	0.88 U	-	-	0.95 U	-	0.81 U	-
Total PeCDF # Homologues	-	-	-	-	0	-	0	-	0	0	-	0	-
Total-HxCDF	-	-	-	-	2.71 U	-	0.64 U	-	-	1.32 U	-	0.99 U	-
Total HxCDF # Homologues	-	-	-	-	1	-	0	-	100	1	-	1	-

TABLE 30, continued
Dioxins and Furans in Groundwater
Units of pg/L (ppq)

Field Sample ID: Laboratory Sample ID: Location: Analytes	MCL/ MCLG	Superfund Chemical Data Matrix (SCDM) RDSC	Superfund Chemical Data Matrix (SCDM) CRSC	MDEQ Human Health Standards (Groundwater)	SSGW10 L1081891-6 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of Pond 20 (landfill E)	WHO TEF Concentration	SSGW89 L1081891-18 Duplicate of sample SSGW10	WHO TEF Concentration	Relative Percentage Difference (RPD)	SSGW11 L1081891-9 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located downgradient of aeration basins	WHO TEF Concentration	SSGW12 L1081891-10 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of landfill G	WHO TEF Concentration
Total-HpCDF	-	-	-	-	9.9	-	15.1	-	21	1.23	-	1.4 U	-
Total HpCDF # Homologues	-	-	-	-	1	-	2	-	33	1	-	0	-
WHO TEQ	-	-	-	2	-	2.12798☆	-	2.26550☆	-	-	2.89078☆	-	7.94703☆

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U The analyte was not detected above the CRQL.
UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.
MDEQ Montana Department of Environmental Quality
RDSC Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration
CRSC Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration
WHO TEQ World Health Organization Toxicity Equivalent
WHO TEF Conc. World Health Organization Toxicity Equivalence Factor Concentration
pg/L pico-gram per liter
ppq parts per quadrillion
Italic Background sample
X.X Analytical Result > 3 x background value = observed contamination
☆ Concentration is > benchmark

Sources: EPA 2011 (CLP limits and Low Concentration Detection Limits); MDEQ 2010 (Circular DEQ-7, Montana Numeric Water Quality Standards); EPA 2011 (SCDM)

TABLE 30, continued
Dioxins and Furans in Groundwater
Units of pg/L (ppq)

Field Sample ID: Laboratory Sample ID: Location: Analytes	MCL/ MCLG	Superfund Chemical Data Matrix (SCDM) RDSC	Superfund Chemical Data Matrix (SCDM) CRSC	MDEQ Human Health Standards (Groundwater)	SSGW13 L1080162-25 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-14 (adjacent to Clark Fork River)	WHO TEF Concentration	SSGW14 L1080162-26 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-13 (adjacent to Clark Fork River)	WHO TEF Concentration	SSGW15 L1080162-27 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-17 (downgradient of most potential sources)	WHO TEF Concentration	SSGW16 L1080162-28 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-11 (adjacent to Clark Fork River)	WHO TEF Concentration
2,3,7,8-TCDD	30	-	0.57	-	3.1 U	1.55000 U	0.48 U	0.24000 U	0.83 U	0.41500 U	0.61 U	0.30500 U
1,2,3,7,8-PeCDD	-	-	1.1	-	0.67 U	0.33500 U	0.75 U	0.37500 U	0.82 U	0.41000 U	1.35 J ☆	1.35000 J
1,2,3,4,7,8-HxCDD	-	-	14	-	0.36 U	0.01800 U	0.18 U	0.00900 U	0.34 U	0.01700 U	0.12 U	0.00600 U
1,2,3,6,7,8-HxCDD	-	-	14	-	1.5 J	0.15000 J	1.9 J	0.19000 J	4.1 J	0.41000 J	5.05 J	0.50500 J
1,2,3,7,8,9-HxCDD	-	-	14	-	1.2 J	0.12000 J	1.8 J	0.18000 J	2.4 J	0.24000 J	2.1 J	0.21000 J
1,2,3,4,6,7,8-HpCDD	-	-	570	-	9.36 J	0.09360 J	14.7	0.14700	22.8	0.22800	10 J	0.10000 J
OCDD	-	-	-	-	27 J	0.00810 J	39.6	0.01188	61	0.01830	38 J	0.01140 J
Total-TCDD	-	-	-	-	3.1 U	-	0.48 U	-	0.83 U	-	0.61 U	-
Total TCDD # Homologues	-	-	-	-	0	-	0	-	0	-	0	-
Total-PeCDD	-	-	-	-	0.67 U	-	0.75 U	-	0.83	-	3.44	-
Total PeCDD # Homologues	-	-	-	-	0	-	0	-	0	-	3	-
Total-HxCDD	-	-	-	-	1.2	-	12.6	-	1.65 U	-	5.05	-
Total HxCDD # Homologues	-	-	-	-	1	-	1	-	0	-	1	-
Total-HpCDD	-	-	-	-	18.2	-	28.7	-	0.34	-	12.8	-
Total HpCDD # Homologues	-	-	-	-	2	-	2	-	1	-	1	-
2,3,7,8-TCDF	-	-	5.7	-	0.68 U	0.03400 U	0.8 J	0.08000 J	1.1 J	0.11000 J	1.7 U	0.08500 U
1,2,3,7,8-PeCDF	-	-	-	-	0.58 U	0.00870 U	0.39 U	0.00585 U	0.48 U	0.00720 U	0.46 U	0.00690 U
2,3,4,7,8-PeCDF	-	-	5.7	-	0.48 U	0.07200 U	0.49 UJ	0.04950 UJ	0.42 U	0.06300 U	0.61 UJ	0.06000 UJ
1,2,3,4,7,8-HxCDF	-	-	57	-	0.29 U	0.01450 U	0.34 U	0.01700 U	0.32 U	0.01600 U	0.26 U	0.01300 U
1,2,3,6,7,8-HxCDF	-	-	57	-	0.29 U	0.01450 U	0.33 U	0.01650 U	0.32 U	0.01600 U	0.25 U	0.01250 U
1,2,3,7,8,9-HxCDF	-	-	57	-	0.36 U	0.01800 U	0.42 U	0.02100 U	0.39 U	0.01950 U	0.3 U	0.01500 U
2,3,4,6,7,8-HxCDF	-	-	57	-	0.32 J	0.03200 J	0.34 U	0.01700 U	0.32 U	0.01600 U	0.26 U	0.01300 U
1,2,3,4,6,7,8-HpCDF	-	-	570	-	0.74 UJ	0.00145 UJ	0.23 UJ	0.00080 UJ	0.4 U	0.00200 U	0.6 UJ	0.00125 UJ
1,2,3,4,7,8,9-HpCDF	-	-	570	-	0.43 U	0.00215 U	0.22 U	0.00110 U	0.54 U	0.00270 U	0.27 U	0.00095 U
OCDF	-	-	-	-	1.1 U	0.00015 U	0.67 J	0.00020 J	0.43 U	0.00006 U	1.32 U	0.00004 U
Total-TCDF	-	-	-	-	0.68 U	-	0.33 U	-	44	-	7.4	-
Total TCDF # Homologues	-	-	-	-	0	-	0	-	0	-	5	-
Total-PeCDF	-	-	-	-	0.58 U	-	0.39 U	-	1.41 U	-	3.04	-
Total PeCDF # Homologues	-	-	-	-	0	-	0	-	0	-	4	-
Total-HxCDF	-	-	-	-	0.36 U	-	0.42 U	-	0.902 U	-	0.3 U	-
Total HxCDF # Homologues	-	-	-	-	0	-	0	-	0	-	0	-
Total-HpCDF	-	-	-	-	0.67 U	-	0.22 U	-	0.54 U	-	0.27 U	-

TABLE 30, continued
Dioxins and Furans in Groundwater
Units of pg/L (ppq)

Field Sample ID: Laboratory Sample ID: Location: Analytes	MCL/ MCLG	Superfund Chemical Data Matrix (SCDM) RDSC	Superfund Chemical Data Matrix (SCDM) CRSC	MDEQ Human Health Standards (Groundwater)	SSGW13 L1080162-25 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-14 (adjacent to Clark Fork River)	WHO TEF Concentration	SSGW14 L1080162-26 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-13 (adjacent to Clark Fork River)	WHO TEF Concentration	SSGW15 L1080162-27 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-17 (downgradient of most potential sources)	WHO TEF Concentration	SSGW16 L1080162-28 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-11 (adjacent to Clark Fork River)	WHO TEF Concentration
Total HpCDF # Homologues	-	-	-	-	1	-	0	-	0	-	0	-
WHO TEQ	-	-	-	2	-	2.47215☆	-	1.36183	-	1.99076	-	2.69504☆

J The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.
U The analyte was not detected above the CRQL.
UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.
MDEQ Montana Department of Environmental Quality
RDSC Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration
CRSC Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration
WHO TEQ World Health Organization Toxicity Equivalent
WHO TEF Conc. World Health Organization Toxicity Equivalence Factor Concentration
pg/L pico-gram per liter
ppq parts per quadrillion
Italic Background sample
X.X Analytical Result > 3 x background value = observed contamination
☆ Concentration is > benchmark

Sources: EPA 2011 (CLP limits and Low Concentration Detection Limits); MDEQ 2010 (Circular DEQ-7, Montana Numeric Water Quality Standards); EPA 2011 (SCDM)

TABLE 30, continued
Dioxins and Furans in Groundwater
Units of pg/L (ppq)

Field Sample ID: Laboratory Sample ID: Location: Analytes	MCL/ MCLG	Superfund Chemical Data Matrix (SCDM) RDSC	Superfund Chemical Data Matrix (SCDM) CRSC	MDEQ Human Health Standards (Groundwater)	SSGW17 L1080162-29 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-19 (downgradient of most potential sources)	WHO TEF Concentration	SSGW18 L1081891-11 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-10 (adjacent to Clark Fork River)	WHO TEF Concentration	SSGW23 L1081891-12 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (15762 Marcure Lane)	WHO TEF Concentration	SSGW24 L1081891-15 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (15700 Marcure Lane)	WHO TEF Concentration
2,3,7,8-TCDD	30	-	0.57	-	1.1 J ☆	1.10000 J	1.5 U	0.75000 U	0.8 U	0.40000 U	0.9 U	0.45000 U
1,2,3,7,8-PeCDD	-	-	1.1	-	1.1 U	0.55000 U	1.4 U	0.70000 U	0.64 U	0.32000 U	0.69 U	0.34500 U
1,2,3,4,7,8-HxCDD	-	-	14	-	0.43 U	0.02150 U	0.73 U	0.03650 U	0.19 U	0.00950 U	0.52 U	0.02600 U
1,2,3,6,7,8-HxCDD	-	-	14	-	3.3 J	0.33000 J	3.4 UJ	0.03700 UJ	0.2 U	0.01000 U	0.72 UJ	0.02600 UJ
1,2,3,7,8,9-HxCDD	-	-	14	-	1.4 J	0.14000 J	3.7 UJ	0.03700 UJ	0.2 U	0.01000 U	0.52 U	0.02600 U
1,2,3,4,6,7,8-HpCDD	-	-	570	-	20	0.20000	15.6	0.15600	0.43 U	0.00215 U	0.8 U	0.00400 U
OCDD	-	-	-	-	162	0.04860	73.8	0.02214	6.3 J	0.00189 J	2.1 U	0.00032 U
Total-TCDD	-	-	-	-	0.69 U	-	1.5 U	-	0.8 U	-	0.9 U	-
Total TCDD # Homologues	-	-	-	-	0	-	0	-	0	-	0	-
Total-PeCDD	-	-	-	-	1.1 U	-	1.5	-	0.64 U	-	0.69 U	-
Total PeCDD # Homologues	-	-	-	-	0	-	1	-	0	-	0	-
Total-HxCDD	-	-	-	-	16.5	-	18.3	-	0.2 U	-	0.52 U	-
Total HxCDD # Homologues	-	-	-	-	2	-	1	-	0	-	0	-
Total-HpCDD	-	-	-	-	40.4	-	15.6	-	0.43 U	-	0.8 U	-
Total HpCDD # Homologues	-	-	-	-	2	-	1	-	0	-	0	-
2,3,7,8-TCDF	-	-	5.7	-	2.96	0.29600	1.7 U	0.08500 U	0.39 U	0.01950 U	0.78 U	0.03900 U
1,2,3,7,8-PeCDF	-	-	-	-	0.7 U	0.01050 U	0.55 U	0.00825 U	0.21 U	0.00315 U	0.54 U	0.00810 U
2,3,4,7,8-PeCDF	-	-	5.7	-	0.63 U	0.09450 U	0.65 UJ	0.07200 UJ	0.25 UJ	0.02850 UJ	0.7 UJ	0.07050 UJ
1,2,3,4,7,8-HxCDF	-	-	57	-	0.38 U	0.01900 U	0.56 U	0.02800 U	0.17 U	0.00850 U	0.58 U	0.02900 U
1,2,3,6,7,8-HxCDF	-	-	57	-	0.38 U	0.01900 U	0.56 U	0.02800 U	0.17 U	0.00850 U	0.58 U	0.02900 U
1,2,3,7,8,9-HxCDF	-	-	57	-	0.51 UJ	0.02300 UJ	0.79 U	0.03950 U	0.21 U	0.01050 U	0.78 U	0.03900 U
2,3,4,6,7,8-HxCDF	-	-	57	-	0.6 J	0.01950 J	0.6 U	0.03000 U	0.17 U	0.00850 U	0.61 U	0.03050 U
1,2,3,4,6,7,8-HpCDF	-	-	570	-	1.6 UJ	0.00205 UJ	0.78 U	0.00295 U	0.16 U	0.00080 U	0.59 U	0.00295 U
1,2,3,4,7,8,9-HpCDF	-	-	570	-	0.56 U	0.00280 U	0.93 U	0.00465 U	0.22 U	0.00110 U	0.94 U	0.00470 U
OCDF	-	-	-	-	1.8 UJ	0.00008 UJ	1.9 U	0.00017 U	0.69 U	0.00010 U	0.74 UJ	0.00010 UJ
Total-TCDF	-	-	-	-	2.96	-	1.7 U	-	0.39 U	-	0.78 U	-
Total TCDF # Homologues	-	-	-	-	1	-	0	-	0	-	0	-
Total-PeCDF	-	-	-	-	0.7 U	-	1.64	-	0.21 U	-	0.54 U	-
Total PeCDF # Homologues	-	-	-	-	0	-	2	-	0	-	0	-
Total-HxCDF	-	-	-	-	0.6 U	-	0.79 U	-	0.21 U	-	0.78 U	-
Total HxCDF # Homologues	-	-	-	-	1	-	0	-	0	-	0	-
Total-HpCDF	-	-	-	-	0.56 U	-	0.93 U	-	0.22 U	-	0.94 U	-

TABLE 30, continued
Dioxins and Furans in Groundwater
Units of pg/L (ppq)

Field Sample ID: Laboratory Sample ID: Location: Analytes	MCL/ MCLG	Superfund Chemical Data Matrix (SCDM) RDSC	Superfund Chemical Data Matrix (SCDM) CRSC	MDEQ Human Health Standards (Groundwater)	SSGW17 L1080162-29 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-19 (downgradient of most potential sources)	WHO TEF Concentration	SSGW18 L1081891-11 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-10 (adjacent to Clark Fork River)	WHO TEF Concentration	SSGW23 L1081891-12 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (15762 Marcure Lane)	WHO TEF Concentration	SSGW24 L1081891-15 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (15700 Marcure Lane)	WHO TEF Concentration
Total HpCDF # Homologues	-	-	-	-	0	-	0	-	0	-	0	-
WHO TEQ	-	-	-	2	-	2.87653☆	-	2.03716☆	-	0.84269	-	1.13017

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UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.
MDEQ Montana Department of Environmental Quality
RDSC Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration
CRSC Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration
WHO TEQ World Health Organization Toxicity Equivalent
WHO TEF Conc. World Health Organization Toxicity Equivalence Factor Concentration
pg/L pico-gram per liter
ppq parts per quadrillion
Italic Background sample
X.X Analytical Result > 3 x background value = observed contamination
☆ Concentration is > benchmark

Sources: EPA 2011 (CLP limits and Low Concentration Detection Limits); MDEQ 2010 (Circular DEQ-7, Montana Numeric Water Quality Standards); EPA 2011 (SCDM)

TABLE 30, continued
Dioxins and Furans in Groundwater
Units of pg/L (ppq)

Field Sample ID: Laboratory Sample ID: Location: Analytes	MCL/ MCLG	Superfund Chemical Data Matrix (SCDM) RDSC	Superfund Chemical Data Matrix (SCDM) CRSC	MDEQ Human Health Standards (Groundwater)	SSGW25 L1081891-16 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (15740 Marcure Lane)	WHO TEF Concentration	SSGW26 L1081891-17 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (15400 Marcure Lane)	WHO TEF Concentration	SSGW99 L1081891-19 Duplicate of sample SSGW26	WHO TEF Concentration	Relative Percentage Difference (RPD)	SSGW27 L1080162-30 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (Clark Fork Cattle Ranch well)	WHO TEF Concentration
2,3,7,8-TCDD	30	-	0.57	-	0.68 U	0.34000 U	0.77 U	0.38500 U	1 U	0.50000 U	-	0.29 U	0.14500 U
1,2,3,7,8-PeCDD	-	-	1.1	-	0.84 U	0.42000 U	0.71 U	0.35500 U	0.82 U	0.41000 U	-	0.43 U	0.21500 U
1,2,3,4,7,8-HxCDD	-	-	14	-	0.35 U	0.01750 U	0.37 U	0.01850 U	0.69 U	0.03450 U	-	0.38 U	0.01900 U
1,2,3,6,7,8-HxCDD	-	-	14	-	0.35 U	0.01750 U	0.38 U	0.01900 U	0.7 U	0.03500 U	-	0.39 U	0.01950 U
1,2,3,7,8,9-HxCDD	-	-	14	-	0.36 U	0.01800 U	0.38 U	0.01900 U	0.7 U	0.03500 U	-	0.39 U	0.01950 U
1,2,3,4,6,7,8-HpCDD	-	-	570	-	0.83 U	0.00415 U	0.87 J	0.00870 J	0.94 U	0.00265 U	-	0.7 UJ	0.00210 UJ
OCDD	-	-	-	-	1.3 UJ	0.00012UJ	0.85 UJ	0.00013 UJ	3.1 UJ	0.00021 UJ	-	2.1 UJ	0.00008 UJ
Total-TCDD	-	-	-	-	0.68 U	-	0.77 U	-	1 U	-	-	0.29 U	-
Total TCDD # Homologues	-	-	-	-	0	-	0	-	0	-	0	0	-
Total-PeCDD	-	-	-	-	0.84 U	-	0.71 U	-	0.82 U	-	-	0.43 U	-
Total PeCDD # Homologues	-	-	-	-	0	-	0	-	0	-	0	0	-
Total-HxCDD	-	-	-	-	0.36 U	-	0.38 U	-	0.7 U	-	-	0.7	-
Total HxCDD # Homologues	-	-	-	-	0	-	0	-	0	-	0	1	-
Total-HpCDD	-	-	-	-	0.83 U	-	0.64 U	-	0.94 U	-	-	0.42 U	-
Total HpCDD # Homologues	-	-	-	-	0	-	0	-	1	-	100	0	-
2,3,7,8-TCDF	-	-	5.7	-	0.77 U	0.03850 U	0.71 U	0.03550 U	0.66 U	0.03300 U	-	0.43 U	0.02150 U
1,2,3,7,8-PeCDF	-	-	-	-	0.54 U	0.00810 U	0.42 U	0.00630 U	0.44 U	0.00660 U	-	0.23 U	0.00345 U
2,3,4,7,8-PeCDF	-	-	5.7	-	0.46 U	0.06900 U	0.57 U	0.05250 U	0.4 U	0.06000 U	--	0.2 U	0.03000 U
1,2,3,4,7,8-HxCDF	-	-	57	-	0.33 U	0.01650 U	0.24 U	0.01200 U	0.38 U	0.01900 U	-	0.17 U	0.00850 U
1,2,3,6,7,8-HxCDF	-	-	57	-	0.35 U	0.01750 U	0.24 U	0.01200 U	0.37 U	0.01850 U	-	0.17 U	0.00850 U
1,2,3,7,8,9-HxCDF	-	-	57	-	0.44 U	0.02200 U	0.34 U	0.01700 U	0.49 U	0.02450 U	-	0.22 U	0.01100 U
2,3,4,6,7,8-HxCDF	-	-	57	-	0.34 U	0.01700 U	0.26 U	0.01300 U	0.41 U	0.02050 U	-	0.18 U	0.00900 U
1,2,3,4,6,7,8-HpCDF	-	-	570	-	0.56 U	0.00280 U	0.2 U	0.00100 U	0.37 U	0.00185 U	-	0.22 U	0.00110 U
1,2,3,4,7,8,9-HpCDF	-	-	570	-	0.97 U	0.00455 U	0.33 U	0.00165 U	0.58 U	0.00290 U	-	0.32 U	0.00160 U
OCDF	-	-	-	-	1.1 U	0.00017 U	0.8 U	0.00012 U	1.2 U	0.00018 U	-	0.4 U	0.00006 U
Total-TCDF	-	-	-	-	0.77 U	-	0.71 U	-	0.66 U	-	-	0.43 U	-
Total TCDF # Homologues	-	-	-	-	0	-	0	-	0	-	0	0	-
Total-PeCDF	-	-	-	-	0.54 U	-	0.61	-	0.44 U	-	-	0.23 U	-
Total PeCDF # Homologues	-	-	-	-	0	-	2	-	0	-	100	0	-
Total-HxCDF	-	-	-	-	0.44 U	-	0.34 U	-	0.49 U	-	-	0.22 U	-
Total HxCDF # Homologues	-	-	-	-	0	-	0	-	0	-	0	0	-
Total-HpCDF	-	-	-	-	0.97	-	0.33 U	-	0.58 U	-	-	0.32 U	-

TABLE 30, continued
Dioxins and Furans in Groundwater
Units of pg/L (ppq)

Field Sample ID: Laboratory Sample ID: Location: Analytes	MCL/ MCLG	Superfund Chemical Data Matrix (SCDM) RDSC	Superfund Chemical Data Matrix (SCDM) CRSC	MDEQ Human Health Standards (Groundwater)	SSGW25 L1081891-16 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (15740 Marcure Lane)	WHO TEF Concentration	SSGW26 L1081891-17 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (15400 Marcure Lane)	WHO TEF Concentration	SSGW99 L1081891-19 Duplicate of sample SSGW26	WHO TEF Concentration	Relative Percentage Difference (RPD)	SSGW27 L1080162-30 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (Clark Fork Cattle Ranch well)	WHO TEF Concentration
Total HpCDF # Homologues	-	-	-	-	1	-	0	-	0	-	0	0	-
WHO TEQ	-	-	-	2	-	1.01339	-	0.95640	-	1.20439	-	-	0.51489

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U The analyte was not detected above the CRQL.
UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.
MDEQ Montana Department of Environmental Quality
RDSC Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration
CRSC Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration
WHO TEQ World Health Organization Toxicity Equivalent
WHO TEF Conc. World Health Organization Toxicity Equivalence Factor Concentration
pg/L pico-gram per liter
ppq parts per quadrillion
Italic Background sample
X.X Analytical Result > 3 x background value = observed contamination
☆ Concentration is > benchmark

Sources: EPA 2011 (CLP limits and Low Concentration Detection Limits); MDEQ 2010 (Circular DEQ-7, Montana Numeric Water Quality Standards); EPA 2011 (SCDM)

TABLE 31
VOCs in Groundwater
Units of µg/L (ppb)

Field Sample ID: Laboratory Sample ID: Location: Analytes	MCL/ MCLG	Superfund Chemical Data Matrix (SCDM) RDSC	Superfund Chemical Data Matrix (SCDM) CRSC	MDEQ Circular 7 Human Health Standards (Groundwater)	SSGW01 H30X0 BACKGROUND Shallow aquifer groundwater grab sample collected from existing monitoring well located upgradient of mill (e.g., SMW-20)	SSGW02 H30X1 BACKGROUND Deeper aquifer groundwater grab sample collected from existing production well located upgradient of mill (production deep well #11)	SSGW03 H30X2 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of sludge pond 17	SSGW04 H30X3 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of sludge pond 3	SSGW05 H30X4 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of landfill A	SSGW07 H30X6 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of sludge pond 5	SSGW08 H30X7 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of landfill 6
Dichlorodifluoromethane	-	-	-	1,000	*0.5 U*	*0.5 U*	0.5 U	0.5 U	2 U	0.5 U	0.5 U
Chloromethane	-	-	-	-	*0.5 U*	*0.5 U*	0.5 U	0.5 U	2 U	0.5 U	0.5 U
Vinyl chloride	2	47	0.017	0.2	*0.5 U*	*0.5 U*	0.5 U	0.5 U	2 U	0.5 U	0.5 U
Bromomethane	-	-	-	-	*0.5 U*	*0.5 U*	0.5 U	0.5 U	2 U	0.5 U	0.5 U
Chloroethane	-	-	-	-	*0.5 U*	*0.5 U*	0.5 U	0.5 U	2 U	0.5 U	0.5 U
Trichlorofluoromethane	-	4,700	-	10,000	*0.5 U*	*0.5 U*	0.5 U	0.5 U	2 U	0.5 U	0.5 U
1,1-Dichloroethene	7	780	-	0.6	*0.5 U*	*0.5 U*	0.5 U	0.5 U	2 U	0.5 U	0.5 U
1,1,2-Trichloro-1,2,2-trifluoroethane	-	-	-	-	*0.5 U*	*0.5 U*	0.5 U	0.5 U	2 U	0.5 U	0.5 U
Acetone	-	14,000	-	-	*5 U*	*5 U*	5 U	5 U	38	5 U	5 U
Carbon disulfide	-	1,600	-	-	*0.5 U*	*0.5 U*	0.5 U	0.2 J	2 U	0.44 J	0.5 U
Methyl acetate	-	-	-	-	*0.5 U*	*0.5 U*	0.5 U	0.5 U	2 U	0.5 U	0.5 U
Methylene chloride	5	94	11	5	*0.5 U*	*0.5 U*	0.5 U	0.32 J	2 U	0.5 U	0.5 U
trans-1,2-Dichloroethene	100	310	-		*0.5 U*	*0.5 U*	0.5 U	0.5 U	2 U	0.5 U	0.5 U
Methyl tert-butyl ether	-	-	37	30	*0.5 U*	*0.5 U*	0.5 U	0.5 U	2 U	0.5 U	0.5 U
1,1-Dichloroethane	-	3,100	12	-	*0.5 U*	*0.5 U*	0.5 U	0.5 U	2 U	0.5 U	0.5 U
cis-1,2-Dichloroethene	70	310	-	-	*0.5 U*	*0.5 U*	0.5 U	0.5 U	2 U	0.5 U	0.5 U
Methyl ethyl ketone (2-Butanone)	-	94,000		-	*5 U*	*5 U*	5 U	5 U	20 U	5 U	5 U
Bromochloromethane	-	-	-	-	*0.5 U*	*0.5 U*	0.5 U	0.5 U	2 U	0.5 U	0.5 U
Chloroform	-	160	2.2	70	*0.5 U*	*0.5 U*	0.5 U	0.21 J	2 U	0.5 U	0.5 U
1,1,1-Trichloroethane	200	31,000	-	200	*0.5 U*	*0.5 U*	0.5 U	0.5 U	2 U	0.5 U	0.5 U
Cyclohexane	-	-	-	-	*0.5 U*	*0.5 U*	0.5 U	0.5 U	3.6	0.5 U	0.5 U
Carbon tetrachloride	5	63	0.96	3	*0.5 U*	*0.5 U*	0.5 U	0.5 U	2 U	0.5 U	0.5 U
Benzene	5	63	1.2	5	*0.5 U*	*0.5 U*	0.22 J	0.5 U	1.3 J	0.5 U	0.5 U
1,2-Dichloroethane	5	94	0.74	4	*0.5 U*	*0.5 U*	0.5 U	0.5 U	2 U	0.5 U	0.5 U
Trichloroethene	5	7.8	1	5	*0.5 U*	*0.5 U*	0.5 U	0.5 U	2 U	0.5 U	0.5 U
Methylcyclohexane	-	-	-	-	*0.5 U*	*0.5 U*	0.5 U	0.5 U	2.2	0.5 U	0.5 U
1,2-Dichloropropane	5	1,400	1.9	5	*0.5 U*	*0.5 U*	0.5 U	0.5 U	2 U	0.5 U	0.5 U
Bromodichloromethane	-	310	1.1	10	*0.5 U*	*0.5 U*	0.5 U	0.5 U	2 U	0.5 U	0.5 U
cis-1,3-Dichloropropene	-	-	-	-	*0.5 U*	*0.5 U*	0.5 U	0.5 U	2 U	0.5 U	0.5 U
4-Methyl-2-pentanone (MIBK)	-	2,900	-	-	*5 U*	*5 U*	5 U	5 U	20 U	5 U	5 U
Toluene	1,000	1,300	-	1,000	*0.5 U*	*0.5 U*	0.5 U	0.5 U	1.4 J	0.5 U	0.5 U

TABLE 31
VOCs in Groundwater
Units of µg/L (ppb)

Field Sample ID: Laboratory Sample ID: Location: Analytes	MCL/ MCLG	Superfund Chemical Data Matrix (SCDM) RDSC	Superfund Chemical Data Matrix (SCDM) CRSC	MDEQ Circular 7 Human Health Standards (Groundwater)	SSGW01 H30X0 BACKGROUND Shallow aquifer groundwater grab sample collected from existing monitoring well located upgradient of mill (e.g., SMW-20)	SSGW02 H30X1 BACKGROUND Deeper aquifer groundwater grab sample collected from existing production well located upgradient of mill (production deep well #11)	SSGW03 H30X2 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of sludge pond 17	SSGW04 H30X3 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of sludge pond 3	SSGW05 H30X4 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of landfill A	SSGW07 H30X6 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of sludge pond 5	SSGW08 H30X7 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of landfill 6
trans-1,3-Dichloropropene	-	-	-	-	*0.5 U*	*0.5 U*	0.5 U	0.5 U	2 U	0.5 U	0.5 U
1,1,2-Trichloroethane	3	63	1.2	3	*0.5 U*	*0.5 U*	0.5 U	0.5 U	2 U	0.5 U	0.5 U
Tetrachloroethene	5	94	32	5	*0.5 U*	*0.5 U*	0.5 U	0.5 U	2 U	0.5 U	0.5 U
Methyl butyl ketone (2-Hexanone)	-	-	-	-	*5 U*	*5 U*	5 U	5 U	20 U	5 U	5 U
Dibromochloromethane	-	-	-	-	*0.5 U*	*0.5 U*	0.5 U	0.5 U	2 U	0.5 U	0.5 U
1,2-Dibromoethane	-	140	0.034	0.004	*0.5 U*	*0.5 U*	0.5 U	0.5 U	2 U	0.5 U	0.5 U
Chlorobenzene	100	310	-	100	*0.5 U*	*0.5 U*	0.5 U	0.5 U	50	0.5 U	0.5 U
Ethyl benzene	700	1,600	6.1	700	*0.5 U*	*0.5 U*	0.5 U	0.5 U	1.7 J	0.5 U	0.5 U
o-Xylene	-	3,100	-	-	*0.5 U*	*0.5 U*	0.5 U	0.5 U	16	0.5 U	0.5 U
m,p-Xylene	-	3,100	-	-	*0.5 U*	*0.5 U*	0.5 U	0.5 U	42	0.5 U	0.5 U
Styrene	100	3,100	-	100	*0.5 U*	*0.5 U*	0.5 U	0.5 U	2 U	0.5 U	0.5 U
Bromoform	-	-	-	80	*0.5 U*	*0.5 U*	0.5 U	0.5 U	2 U	0.5 U	0.5 U
Isopropylbenzene	-	-	-	-	*0.5 U*	*0.5 U*	0.5 U	0.5 U	2	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	-	310	0.34	2	*0.5 U*	*0.5 U*	0.5 U	0.5 U	2 U	0.5 U	0.5 U
1,3-Dichlorobenzene	-	-	-	600	*0.5 U*	*0.5 U*	0.5 U	0.5 U	2 U	0.5 U	0.5 U
1,4-Dichlorobenzene	75	1,100	12	75	*0.5 U*	*0.5 U*	0.5 U	0.5 U	2 U	0.5 U	0.5 U
1,2-Dichlorobenzene	-	-	-	600	*0.5 U*	*0.5 U*	0.5 U	0.5 U	2 U	0.5 U	0.5 U
1,2-Dibromo-3-chloropropane	0.2	3.1	0.027	-	*0.5 U*	*0.5 U*	0.5 U	0.5 U	2 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	70	160	2.3	70	*0.5 U*	*0.5 U*	0.5 U	0.5 U	2 U	0.5 U	0.5 U
1,2,3-Trichlorobenzene	-	-	-	-	*0.5 U*	*0.5 U*	0.5 U	0.5 U	2 U	0.5 U	0.5 U

J The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.
U The analyte was not detected above the CRQL.
UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.
RDSC Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration
CRSC Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration
MDEQ Montana Department of Environmental Quality
MCLG Maximum Contaminant Level Goal. A non-enforceable health goal that is set at a level at which no known or anticipated adverse effect on the health of persons occurs and which allows an adequate margin of safety.
MCL Maximum Contaminant Level. The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLG as feasible using the best available analytical and treatment technologies and taking cost into consideration. MCLs are enforceable standards.
µg/L micrograms per liter
ppb parts per billion
BOLD Background value
Italic Background sample
X.X Analytical Result > 3 x background value = observed contamination
☆ Concentration is > benchmark
Sources: EPA 2011 (CLP limits); EPA 2011 (SCDM); EPA 2011 (Low Concentration Detection Limits); MDEQ 2010 (Circular DEQ-7, Montana Numeric Water Quality Standards)

TABLE 31, continued
VOCs in Groundwater
Units of µg/L (ppb)

Field Sample ID: Laboratory Sample ID: Location: Analytes	MCL/ MCLG	Superfund Chemical Data Matrix (SCDM) RDSC	Superfund Chemical Data Matrix (SCDM) CRSC	MDEQ Circular 7 Human Health Standards (Groundwater)	SSGW10 H30X9 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of Pond 20 (landfill E)	SSGW89 H30Z9 Duplicate of sample SSGW10	Relative Percentage Difference (RPD)	SSGW11 H30Y0 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located downgradient of aeration basins	SSGW12 H30Y1 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of landfill G	SSGW13 H30Y2 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-14 (adjacent to Clark Fork River)	SSGW14 H30Y3 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-13 (adjacent to Clark Fork River)	SSGW15 H30Y4 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-17 (downgradient of most potential sources)	SSGW16 H30Y5 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-11 (adjacent to Clark Fork River)
Dichlorodifluoromethane	-	-	-	1,000	0.5 U	0.5 U	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloromethane	-	-	-	-	0.5 U	0.5 U	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl chloride	2	47	0.017	0.2	0.5 U	0.5 U	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	-	-	-	-	0.5 U	0.5 U	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	-	-	-	-	0.5 U	0.5 U	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichlorofluoromethane	-	4,700	-	10,000	0.5 U	0.5 U	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethene	7	780	-	0.6	0.5 U	0.5 U	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloro-1,2,2-trifluoroethane	-	-	-	-	0.5 U	0.5 U	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Acetone	-	14,000	-	-	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	3.8 J
Carbon disulfide	-	1,600	-	-	0.5 U	0.56	-	0.83	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl acetate	-	-	-	-	0.5 U	0.5 U	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methylene chloride	5	94	11	5	0.5 U	0.5 U	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,2-Dichloroethene	100	310	-		0.5 U	0.5 U	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl tert-butyl ether	-	-	37	30	0.5 U	0.5 U	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	-	3,100	12	-	0.5 U	0.5 U	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,2-Dichloroethene	70	310	-	-	0.5 U	0.5 U	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl ethyl ketone (2-Butanone)	-	94,000		-	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
Bromochloromethane	-	-	-	-	0.5 U	0.5 U	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	-	160	2.2	70	0.5 U	0.5 U	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	200	31,000	-	200	0.5 U	0.5 U	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Cyclohexane	-	-	-	-	0.5 U	0.5 U	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon tetrachloride	5	63	0.96	3	0.5 U	0.5 U	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Benzene	5	63	1.2	5	0.5 U	0.5 U	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	5	94	0.74	4	0.5 U	0.5 U	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	5	7.8	1	5	0.5 U	0.5 U	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methylcyclohexane	-	-	-	-	0.5 U	0.5 U	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	5	1,400	1.9	5	0.5 U	0.5 U	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	-	310	1.1	10	0.5 U	0.5 U	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,3-Dichloropropene	-	-	-	-	0.5 U	0.5 U	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
4-Methyl-2-pentanone (MIBK)	-	2,900	-	-	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U

TABLE 31, continued
VOCs in Groundwater
Units of µg/L (ppb)

Field Sample ID: Laboratory Sample ID: Location: Analytes	MCL/ MCLG	Superfund Chemical Data Matrix (SCDM) RDSC	Superfund Chemical Data Matrix (SCDM) CRSC	MDEQ Circular 7 Human Health Standards (Groundwater)	SSGW10 H30X9 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of Pond 20 (landfill E)	SSGW89 H30Z9 Duplicate of sample SSGW10	Relative Percentage Difference (RPD)	SSGW11 H30Y0 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located downgradient of aeration basins	SSGW12 H30Y1 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of landfill G	SSGW13 H30Y2 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-14 (adjacent to Clark Fork River)	SSGW14 H30Y3 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-13 (adjacent to Clark Fork River)	SSGW15 H30Y4 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-17 (downgradient of most potential sources)	SSGW16 H30Y5 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-11 (adjacent to Clark Fork River)
Toluene	1,000	1,300	-	1,000	0.5 U	0.5 U	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,3-Dichloropropene	-	-	-	-	0.5 U	0.5 U	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	3	63	1.2	3	0.5 U	0.5 U	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene	5	94	32	5	0.5 U	0.5 U	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl butyl ketone (2-Hexanone)	-	-	-	-	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
Dibromochloromethane	-	-	-	-	0.5 U	0.5 U	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dibromoethane	-	140	0.034	0.004	0.5 U	0.5 U	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	100	310	-	100	0.5 U	0.5 U	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethylbenzene	700	1,600	6.1	700	0.5 U	0.5 U	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
o-Xylene	10,000	3,100	-	-	0.5 U	0.5 U	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
m,p-Xylene	-	3,100	-	-	0.5 U	0.5 U	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	100	3,100	-	100	0.5 U	0.5 U	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	-	-	-	80	0.5 U	0.5 U	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Isopropylbenzene	-	-	-	-	0.5 U	0.5 U	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	-	310	0.34	2	0.5 U	0.5 U	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichlorobenzene	-	-	-	600	0.5 U	0.5 U	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,4-Dichlorobenzene	75	1,100	12	75	0.5 U	0.5 U	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichlorobenzene	-	-	-	600	0.5 U	0.5 U	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dibromo-3-chloropropane	0.2	3.1	0.027	-	0.5 U	0.5 U	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	70	160	2.3	70	0.5 U	0.5 U	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichlorobenzene	-	-	-	-	0.5 U	0.5 U	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

J The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.
U The analyte was not detected above the CRQL.
UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.
RDSC Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration
CRSC Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration
MDEQ Montana Department of Environmental Quality
MCLG Maximum Contaminant Level Goal. A non-enforceable health goal that is set at a level at which no known or anticipated adverse effect on the health of persons occurs and which allows an adequate margin of safety.
MCL Maximum Contaminant Level. The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLG as feasible using the best available analytical and treatment technologies and taking cost into consideration. MCLs are enforceable standards.
µg/L micrograms per liter
ppb parts per billion
BOLD Background value
X.X Analytical Result > 3 x background value = observed contamination
☆ Concentration is > benchmark
Italic Background sample
Sources: EPA 2011 (CLP limits); EPA 2011 (SCDM); EPA 2011 (Low Concentration Detection Limits); MDEQ 2010 (Circular DEQ-7, Montana Numeric Water Quality Standards)

TABLE 31, continued
VOCs in Groundwater
Units of µg/L (ppb)

Field Sample ID: Laboratory Sample ID: Location: Analytes	MCL/ MCLG	Superfund Chemical Data Matrix (SCDM) RDSC	Superfund Chemical Data Matrix (SCDM) CRSC	MDEQ Circular 7 Human Health Standards (Groundwater)	SSGW17 H30Y6 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-19 (downgradient of most potential sources)	SSGW18 H30Y7 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-10 (adjacent to Clark Fork River)	SSGW23 H30Z2 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (15762 Marcure Lane)	SSGW24 H30Z3 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (15700 Marcure Lane)	SSGW25 H30Z4 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (15740 Marcure Lane)	SSGW26 H30Z5 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (15400 Marcure Lane)	SSGW99 H30Z8 Duplicate of sample SSGW26	Relative Percentage Difference (RPD)	SSGW27 H30Z6 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (Clark Fork Cattle Ranch well)
Dichlorodifluoromethane	-	-	-	1000	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	0.5 U
Chloromethane	-	-	-	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	0.5 U
Vinyl chloride	2	47	0.017	0.2	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	0.5 U
Bromomethane	-	-	-	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	0.5 U
Chloroethane	-	-	-	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	0.5 U
Trichlorofluoromethane	-	4,700	-	10000	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	0.5 U
1,1-Dichloroethene	7	780	-	0.6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	0.5 U
1,1,2-Trichloro-1,2,2-trifluoroethane	-	-	-	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	0.5 U
Acetone	-	14,000	-	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	-	5 U
Carbon disulfide	-	1,600	-	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	0.5 U
Methyl acetate	-	-	-	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	0.5 U
Methylene chloride	5	94	11	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	0.5 U
trans-1,2-Dichloroethene	100	310	-		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	0.5 U
Methyl tert-butyl ether	-	-	37	30	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	0.5 U
1,1-Dichloroethane	-	3,100	12	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	0.5 U
cis-1,2-Dichloroethene	70	310	-	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	0.5 U
2-Butanone	-	94,000		-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	-	5 U
Bromochloromethane	-	-	-	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	0.5 U
Chloroform	-	160	2.2	70	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	0.5 U
1,1,1-Trichloroethane	200	31,000	-	200	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	0.5 U
Cyclohexane	-	-	-	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	0.5 U
Carbon tetrachloride	5	63	0.96	3	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	0.5 U
Benzene	5	63	1.2	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	0.5 U
1,2-Dichloroethane	5	94	0.74	4	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	0.5 U
Trichloroethene	5	7.8	1	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	0.5 U
Methylcyclohexane	-	-	-	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	0.5 U
1,2-Dichloropropane	5	1,400	1.9	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	0.5 U
Bromodichloromethane	-	310	1.1	10	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	0.5 U
cis-1,3-Dichloropropene	-	-	-	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	0.5 U
4-Methyl-2-pentanone (MIBK)	-	2,900	-	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	-	5 U

TABLE 31, continued
VOCs in Groundwater
Units of µg/L (ppb)

Field Sample ID: Laboratory Sample ID: Location: Analytes	MCL/ MCLG	Superfund Chemical Data Matrix (SCDM) RDSC	Superfund Chemical Data Matrix (SCDM) CRSC	MDEQ Circular 7 Human Health Standards (Groundwater)	SSGW17 H30Y6 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-19 (downgradient of most potential sources)	SSGW18 H30Y7 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-10 (adjacent to Clark Fork River)	SSGW23 H30Z2 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (15762 Marcure Lane)	SSGW24 H30Z3 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (15700 Marcure Lane)	SSGW25 H30Z4 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (15740 Marcure Lane)	SSGW26 H30Z5 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (15400 Marcure Lane)	SSGW99 H30Z8 Duplicate of sample SSGW26	Relative Percentage Difference (RPD)	SSGW27 H30Z6 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (Clark Fork Cattle Ranch well)
Toluene	1,000	1,300	-	1,000	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	0.5 U
trans-1,3-Dichloropropene	-	-	-	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	0.5 U
1,1,2-Trichloroethane	3	63	1.2	3	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	0.5 U
Tetrachloroethene	5	94	32	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	0.5 U
2-Hexanone	-	-	-	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	-	5 U
Dibromochloromethane	-	-	-	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	0.5 U
1,2-Dibromoethane	-	140	0.034	0.004	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	0.5 U
Chlorobenzene	100	310	-	100	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	0.5 U
Ethylbenzene	700	1,600	6.1	700	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	0.5 U
o-Xylene	10,000	3,100	-	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	0.5 U
m,p-Xylene	-	3,100	-	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	0.5 U
Styrene	100	3,100	-	100	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	0.5 U
Bromoform	-	-	-	80	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	0.5 U
Isopropylbenzene	-	-	-	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	0.5 U
1,1,2,2-Tetrachloroethane	-	310	0.34	2	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	0.5 U
1,3-Dichlorobenzene	-	-	-	600	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	0.5 U
1,4-Dichlorobenzene	75	1,100	12	75	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	0.5 U
1,2-Dichlorobenzene	-	-	-	600	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	0.5 U
1,2-Dibromo-3-chloropropane	0.2	3.1	0.027	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	0.5 U
1,2,4-Trichlorobenzene	70	160	2.3	70	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	0.5 U
1,2,3-Trichlorobenzene	-	-	-	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-	0.5 U

J The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.
U The analyte was not detected above the CRQL.
UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.
RDSC Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration
CRSC Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration
MDEQ Montana Department of Environmental Quality
MCLG Maximum Contaminant Level Goal. A non-enforceable health goal that is set at a level at which no known or anticipated adverse effect on the health of persons occurs and which allows an adequate margin of safety.
MCL Maximum Contaminant Level. The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLG as feasible using the best available analytical and treatment technologies and taking cost into consideration. MCLs are enforceable standards.
µg/L micrograms per liter
ppb parts per billion
BOLD Background value
X.X Analytical Result > 3 x background value = observed contamination
☆ Concentration is > benchmark
Italic Background sample
Sources: EPA 2011 (CLP limits); EPA 2011 (SCDM); EPA 2011 (Low Concentration Detection Limits); MDEQ 2010 (Circular DEQ-7, Montana Numeric Water Quality Standards)

TABLE 32
SVOCs in Groundwater
Units of µg/L (ppb)

Field Sample ID: Laboratory Sample ID: Location: Analytes	MCL/ MCLG	Superfund Chemical Data Matrix (SCDM) RDSC	Superfund Chemical Data Matrix (SCDM) CRSC	MDEQ Circular 7 Human Health Standards (Groundwater)	SSGW01 H30X0 BACKGROUND Shallow aquifer groundwater grab sample collected from existing monitoring well located upgradient of mill (e.g., SMW-20)	SSGW02 H30X1 BACKGROUND Deeper aquifer groundwater grab sample collected from existing production well located upgradient of mill (production deep well #11)	SSGW03 H30X2 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of sludge pond 17	SSGW04 H30X3 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of sludge pond 3	SSGW05 H30X4 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of landfill A	SSGW07 H30X6 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of sludge pond 5	SSGW08 H30X7 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of landfill 6
Benzaldehyde	-	-	-	-	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
Phenol	-	11,000	-	300	*5 U*	*5 U*	5 U	1.6 J	5 U	5 U	5 U
Bis(2-chloroethyl)ether	-	-	-	-	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
2-Chlorophenol	-	-	-	81	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
2-Methylphenol	-	-	-	-	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
2,2'-Oxybis(1-chloropropane)	-	-	-	-	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
Acetophenone	-	-	-	-	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
4-Methylphenol	-	180	-	-	*5 U*	*5 U*	5 U	9.5	5 U	5 U	5 U
N-Nitroso-di-n-propylamine	-	-	-	0.05	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
Hexachloroethane	-	-	-	30	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
Nitrobenzene	-	-	-	17	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
Isophorone	-	-	-	400	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
2-Nitrophenol	-	-	-	-	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
2,4-Dimethylphenol	-	730	-	380	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
Bis(2-chloroethoxy)methane	-	-	-	-	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
2,4-Dichlorophenol	-	110	-	77	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
Naphthalene	-	1,500	-	100	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
4-Chloroaniline	-	-	-	-	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
Hexachlorobutadiene	-	7.3	1.1	5	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
Caprolactam	-	-	-	-	*5 U*	*5 U*	5 U	5 U	12	5 U	5 U
4-Chloro-3-methylphenol	-	-	-	-	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
2-Methylnaphthalene	-	-	-	-	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
Hexachlorocyclopentadiene	-	-	-	50	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
2,4,6-Trichlorophenol	-	-	7.7	30	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
2,4,5-Trichlorophenol	-	-	-	1800	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
1,1'-Biphenyl	-	-	-	-	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
2-Chloronaphthalene	-	-	-	-	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U

TABLE 32
SVOCs in Groundwater
Units of µg/L (ppb)

Field Sample ID: Laboratory Sample ID: Location: Analytes	MCL/ MCLG	Superfund Chemical Data Matrix (SCDM) RDSC	Superfund Chemical Data Matrix (SCDM) CRSC	MDEQ Circular 7 Human Health Standards (Groundwater)	SSGW01 H30X0 BACKGROUND Shallow aquifer groundwater grab sample collected from existing monitoring well located upgradient of mill (e.g., SMW-20)	SSGW02 H30X1 BACKGROUND Deeper aquifer groundwater grab sample collected from existing production well located upgradient of mill (production deep well #11)	SSGW03 H30X2 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of sludge pond 17	SSGW04 H30X3 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of sludge pond 3	SSGW05 H30X4 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of landfill A	SSGW07 H30X6 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of sludge pond 5	SSGW08 H30X7 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of landfill 6
2-Nitroaniline	-	-	-	-	*10 U*	*10 U*	10 U	10 U	10 U	10 U	10 U
Dimethylphthalate	-	-	-	270000	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
2,6-Dinitrotoluene	-	-	-	0.5	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
Acenaphthylene	-	-	-	-	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
3-Nitroaniline	-	-	-	-	*10 U*	*10 U*	10 U	10 U	10 U	10 U	10 U
Acenaphthene	-	2,200	-	670	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
2,4-Dinitrophenol	-	110	-	69	*10 U*	*10 U*	10 U	10 U	10 U	10 U	10 U
4-Nitrophenol	-	-	-	60	*10 U*	*10 U*	10 U	10 U	10 U	10 U	10 U
Dibenzofuran	-	150	-	-	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
2,4-Dinitrotoluene	-	-	-	1.1	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
Diethylphthalate	-	29,000	-	17000	*5 U*	*5 U*	5 U	5 U	5 U	1.2 J	1.2 J
Fluorene	-	1,500	-	1100	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
4-Chlorophenyl-phenylether	-	-	-	-	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
4-Nitroaniline	-	-	-	-	*10 U*	*10 U*	10 U	10 U	10 U	10 U	10 U
4,6-Dinitro-2-methylphenol	-	-	-	-	*10 U*	*10 U*	10 U	10 U	10 U	10 U	10 U
N-Nitrosodiphenylamine	-	-	17	33	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
1,2,4,5-Tetrachlorobenzene	-	11	-	0.97	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
4-Bromophenyl-phenylether	-	-	-	-	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
Hexachlorobenzene	1	29	0.053	0.2	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
Atrazine	-	-	-	3	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
Pentachlorophenol	1	1,100	0.71	1	*10 U*	*10 U*	10 U	10 U	10 U	10 U	10 U
Phenanthrene	-	-	-	-	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
Anthracene	-	11000	-	2100	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
Carbazole	-	-	4.3	-	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
Di-n-butylphthalate	-	3,700	-	2000	*5 U*	*5 U*	1.1 J	5 U	5 U	1.2 J	1 J
Fluoranthene	-	-	-	130	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
Pyrene	-	1,100	-	830	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U

TABLE 32
SVOCs in Groundwater
Units of µg/L (ppb)

Field Sample ID: Laboratory Sample ID: Location: Analytes	MCL/ MCLG	Superfund Chemical Data Matrix (SCDM) RDSC	Superfund Chemical Data Matrix (SCDM) CRSC	MDEQ Circular 7 Human Health Standards (Groundwater)	SSGW01 H30X0 BACKGROUND Shallow aquifer groundwater grab sample collected from existing monitoring well located upgradient of mill (e.g., SMW-20)	SSGW02 H30X1 BACKGROUND Deeper aquifer groundwater grab sample collected from existing production well located upgradient of mill (production deep well #11)	SSGW03 H30X2 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of sludge pond 17	SSGW04 H30X3 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of sludge pond 3	SSGW05 H30X4 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of landfill A	SSGW07 H30X6 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of sludge pond 5	SSGW08 H30X7 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of landfill 6
Butylbenzylphthalate	-	7,300	-	1500	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
3,3'-Dichlorobenzidine	-	-	-	0.21	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
Benzo(a)anthracene	-	-	0.12	0.5	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
Chrysene	-	-	12	50	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
Bis(2-ethylhexyl)phthalate	6	730	6.1	-	*5 U*	*5 U*	11 ☆	5 U	5 U	1 J	1.3 J
Di-n-octylphthalate	-	730	-	-	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
Benzo(b)fluoranthene	-	-	-	0.5	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
Benzo(k)fluoranthene	-	-	1.2	5	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
Benzo(a)pyrene	0.2	-	0.012	0.05	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
Indeno(1,2,3-cd)pyrene	-	-	0.12	0.5	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
Dibenzo(a,h)anthracene	-	-	0.012	0.05	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
Benzo(g,h,i)perylene	-	-	-	-	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U
2,3,4,6-Tetrachlorophenol	-	-	-	-	*5 U*	*5 U*	5 U	5 U	5 U	5 U	5 U

J The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.
U The analyte was not detected above the CRQL.
UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.
RDSC Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration
CRSC Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration
MDEQ Montana Department of Environmental Quality
MCLG Maximum Contaminant Level Goal. A non-enforceable health goal that is set at a level at which no known or anticipated adverse effect on the health of persons occurs and which allows an adequate margin of safety.
MCL Maximum Contaminant Level. The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLG as feasible using the best available analytical and treatment technologies and taking cost into consideration. MCLs are enforceable standards.
µg/L micrograms per liter
ppb parts per billion
BOLD Background value
Italic Background sample
X.X Analytical Result > 3 x background value = observed contamination
☆ Concentration is > benchmark
Sources: EPA 2011 (CLP limits); EPA 2011 (SCDM); EPA 2011 (Low Concentration Detection Limits); MDEQ 2010 (Circular DEQ-7, Montana Numeric Water Quality Standards)

TABLE 32, continued
SVOCs in Groundwater
Units of µg/L (ppb)

Field Sample ID: Laboratory Sample ID: Location: Analytes	MCL/ MCLG	Superfund Chemical Data Matrix (SCDM) RDSC	Superfund Chemical Data Matrix (SCDM) CRSC	MDEQ Circular 7 Human Health Standards (Groundwater)	SSGW10 H30X9 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of Pond 20 (landfill E)	SSGW89 H30Z9 Duplicate of sample SSGW10	Relative Percentage Difference (RPD)	SSGW11 H30Y0 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located downgradient of aeration basins	SSGW12 H30Y1 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of landfill G	SSGW13 H30Y2 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-14 (adjacent to Clark Fork River)	SSGW14 H30Y3 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-13 (adjacent to Clark Fork River)	SSGW15 H30Y4 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-17 (downgradient of most potential sources)	SSGW16 H30Y5 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-11 (adjacent to Clark Fork River)
Benzaldehyde	-	-	-	-	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
Phenol	-	11,000	-	300	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
Bis(2-chloroethyl)ether	-	-	-	-	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
2-Chlorophenol	-	-	-	81	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
2-Methylphenol	-	-	-	-	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
2,2'-Oxybis(1-chloropropane)	-	-	-	-	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
Acetophenone	-	-	-	-	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
4-Methylphenol	-	180	-	-	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
N-Nitroso-di-n-propylamine	-	-	-	0.05	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
Hexachloroethane	-	-	-	30	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
Nitrobenzene	-	-	-	17	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
Isophorone	-	-	-	400	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
2-Nitrophenol	-	-	-	-	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
2,4-Dimethylphenol	-	730	-	380	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
Bis(2-chloroethoxy)methane	-	-	-	-	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
2,4-Dichlorophenol	-	110	-	77	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
Naphthalene	-	1,500	-	100	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
4-Chloroaniline	-	-	-	-	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
Hexachlorobutadiene	-	7.3	1.1	5	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
Caprolactam	-	-	-	-	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
4-Chloro-3-methylphenol	-	-	-	-	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
2-Methylnaphthalene	-	-	-	-	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
Hexachlorocyclopentadiene	-	-	-	50	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
2,4,6-Trichlorophenol	-	-	7.7	30	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
2,4,5-Trichlorophenol	-	-	-	1800	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
1,1'-Biphenyl	-	-	-	-	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U

TABLE 32, continued
SVOCs in Groundwater
Units of µg/L (ppb)

Field Sample ID: Laboratory Sample ID: Location: Analytes	MCL/ MCLG	Superfund Chemical Data Matrix (SCDM) RDSC	Superfund Chemical Data Matrix (SCDM) CRSC	MDEQ Circular 7 Human Health Standards (Groundwater)	SSGW10 H30X9 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of Pond 20 (landfill E)	SSGW89 H30Z9 Duplicate of sample SSGW10	Relative Percentage Difference (RPD)	SSGW11 H30Y0 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located downgradient of aeration basins	SSGW12 H30Y1 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of landfill G	SSGW13 H30Y2 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-14 (adjacent to Clark Fork River)	SSGW14 H30Y3 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-13 (adjacent to Clark Fork River)	SSGW15 H30Y4 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-17 (downgradient of most potential sources)	SSGW16 H30Y5 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-11 (adjacent to Clark Fork River)
2-Chloronaphthalene	-	-	-	-	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
2-Nitroaniline	-	-	-	-	10 U	10 U	-	10 U	10 U	10 U	10 U	10 U	10 U
Dimethylphthalate	-	-	-	270000	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
2,6-Dinitrotoluene	-	-	-	0.5	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
Acenaphthylene	-	-	-	-	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
3-Nitroaniline	-	-	-	-	10 U	10 U	-	10 U	10 U	10 U	10 U	10 U	10 U
Acenaphthene	-	2,200	-	670	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
2,4-Dinitrophenol	-	110	-	69	10 U	10 U	-	10 U	10 U	10 U	10 U	10 U	10 U
4-Nitrophenol	-	-	-	60	10 U	10 U	-	10 U	10 U	10 U	10 U	10 U	10 U
Dibenzofuran	-	150	-	-	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
2,4-Dinitrotoluene	-	-	-	1.1	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
Diethylphthalate	-	29,000	-	17000	1.3 J	5.0 UJ	-	1.1 J	5 U	5 U	5 U	5 U	5 U
Fluorene	-	1,500	-	1100	5 U	5 U		5 U	5 U	5 U	5 U	5 U	5 U
4-Chlorophenyl-phenylether	-	-	-	-	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
4-Nitroaniline	-	-	-	-	10 U	10 U	-	10 U	10 U	10 U	10 U	10 U	10 U
4,6-Dinitro-2-methylphenol	-	-	-	-	10 U	10 U	-	10 U	10 U	10 U	10 U	10 U	10 U
N-Nitrosodiphenylamine	-	-	17	33	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
1,2,4,5-Tetrachlorobenzene	-	11	-	0.97	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
4-Bromophenyl-phenylether	-	-	-	-	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
Hexachlorobenzene	1	29	0.053	0.2	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
Atrazine	-	-	-	3	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
Pentachlorophenol	1	1,100	0.71	1	10 U	10 U	-	10 U	10 U	10 U	10 U	10 U	10 U
Phenanthrene	-	-	-	-	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
Anthracene	-	11000	-	2100	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
Carbazole	-	-	4.3	-	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
Di-n-butylphthalate	-	3,700	-	2000	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U

TABLE 32, continued
SVOCs in Groundwater
Units of µg/L (ppb)

Field Sample ID: Laboratory Sample ID: Location: Analytes	MCL/ MCLG	Superfund Chemical Data Matrix (SCDM) RDSC	Superfund Chemical Data Matrix (SCDM) CRSC	MDEQ Circular 7 Human Health Standards (Groundwater)	SSGW10 H30X9 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of Pond 20 (landfill E)	SSGW89 H30Z9 Duplicate of sample SSGW10	Relative Percentage Difference (RPD)	SSGW11 H30Y0 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located downgradient of aeration basins	SSGW12 H30Y1 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of landfill G	SSGW13 H30Y2 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-14 (adjacent to Clark Fork River)	SSGW14 H30Y3 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-13 (adjacent to Clark Fork River)	SSGW15 H30Y4 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-17 (downgradient of most potential sources)	SSGW16 H30Y5 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-11 (adjacent to Clark Fork River)
Fluoranthene	-	-	-	130	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
Pyrene	-	1,100	-	830	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
Butylbenzylphthalate	-	7,300	-	1500	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
3,3'-Dichlorobenzidine	-	-	-	0.21	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
Benzo(a)anthracene	-	-	0.12	0.5	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
Chrysene	-	-	12	50	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
Bis(2-ethylhexyl)phthalate	6	730	6.1	-	1.4 J	2.0 J	18	1 J	5 U	5 U	5 U	5 U	5 U
Di-n-octylphthalate	-	730	-	-	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
Benzo(b)fluoranthene	-	-	-	0.5	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
Benzo(k)fluoranthene	-	-	1.2	5	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
Benzo(a)pyrene	0.2	-	0.012	0.05	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
Indeno(1,2,3-cd)pyrene	-	-	0.12	0.5	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
Dibenzo(a,h)anthracene	-	-	0.012	0.05	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
Benzo(g,h,i)perylene	-	-	-	-	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
2,3,4,6-Tetrachlorophenol	-	-	-	-	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U

J The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.
U The analyte was not detected above the CRQL.
UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.
RDSC Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration
CRSC Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration
MDEQ Montana Department of Environmental Quality
MCLG Maximum Contaminant Level Goal. A non-enforceable health goal that is set at a level at which no known or anticipated adverse effect on the health of persons occurs and which allows an adequate margin of safety.
MCL Maximum Contaminant Level. The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLG as feasible using the best available analytical and treatment technologies and taking cost into consideration. MCLs are enforceable standards.
µg/L micrograms per liter
ppb parts per billion
BOLD Background value
X.X Analytical Result > 3 x background value = observed contamination
☆ Concentration is > benchmark
Italic Background sample
Sources: EPA 2011 (CLP limits); EPA 2011 (SCDM); EPA 2011 (Low Concentration Detection Limits); MDEQ 2010 (Circular DEQ-7, Montana Numeric Water Quality Standards)

TABLE 32, continued
SVOCs in Groundwater
Units of µg/L (ppb)

Field Sample ID: Laboratory Sample ID: Location: Analytes	MCL/ MCLG	Superfund Chemical Data Matrix (SCDM) RDSC	Superfund Chemical Data Matrix (SCDM) CRSC	MDEQ Circular 7 Human Health Standards (Groundwater)	SSGW17 H30Y6 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-19 (downgradient of most potential sources)	SSGW18 H30Y7 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-10 (adjacent to Clark Fork River)	SSGW23 H30Z2 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (15762 Marcure Lane)	SSGW24 H30Z3 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (15700 Marcure Lane)	SSGW25 H30Z4 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (15740 Marcure Lane)	SSGW26 H30Z5 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (15400 Marcure Lane)	SSGW99 H30Z8 Duplicate of sample SSGW26	Relative Percentage Difference (RPD)	SSGW27 H30Z6 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (Clark Fork Cattle Ranch well)
Benzaldehyde	-	-	-	-	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
Phenol	-	11,000	-	300	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
Bis(2-chloroethyl)ether	-	-	-	-	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
2-Chlorophenol	-	-	-	81	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
2-Methylphenol	-	-	-	-	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
2,2'-Oxybis(1-chloropropane)	-	-	-	-	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
Acetophenone	-	-	-	-	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
4-Methylphenol	-	180	-	-	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
N-Nitroso-di-n-propylamine	-	-	-	0.05	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
Hexachloroethane	-	-	-	30	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
Nitrobenzene	-	-	-	17	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
Isophorone	-	-	-	400	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
2-Nitrophenol	-	-	-	-	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
2,4-Dimethylphenol	-	730	-	380	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
Bis(2-chloroethoxy)methane	-	-	-	-	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
2,4-Dichlorophenol	-	110	-	77	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
Naphthalene	-	1,500	-	100	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
4-Chloroaniline	-	-	-	-	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
Hexachlorobutadiene	-	7.3	1.1	5	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
Caprolactam	-	-	-	-	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
4-Chloro-3-methylphenol	-	-	-	-	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
2-Methylnaphthalene	-	-	-	-	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
Hexachlorocyclopentadiene	-	-	-	50	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
2,4,6-Trichlorophenol	-	-	7.7	30	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
2,4,5-Trichlorophenol	-	-	-	1800	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
1,1'-Biphenyl	-	-	-	-	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U

TABLE 32, continued
SVOCs in Groundwater
Units of µg/L (ppb)

Field Sample ID: Laboratory Sample ID: Location: Analytes	MCL/ MCLG	Superfund Chemical Data Matrix (SCDM) RDSC	Superfund Chemical Data Matrix (SCDM) CRSC	MDEQ Circular 7 Human Health Standards (Groundwater)	SSGW17 H30Y6 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-19 (downgradient of most potential sources)	SSGW18 H30Y7 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-10 (adjacent to Clark Fork River)	SSGW23 H30Z2 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (15762 Marcure Lane)	SSGW24 H30Z3 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (15700 Marcure Lane)	SSGW25 H30Z4 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (15740 Marcure Lane)	SSGW26 H30Z5 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (15400 Marcure Lane)	SSGW99 H30Z8 Duplicate of sample SSGW26	Relative Percentage Difference (RPD)	SSGW27 H30Z6 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (Clark Fork Cattle Ranch well)
2-Chloronaphthalene	-	-	-	-	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
2-Nitroaniline	-	-	-	-	10 U	10 U	10 U	10 U	10 U	10 U	10 UJ	-	10 U
Dimethylphthalate	-	-	-	270000	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
2,6-Dinitrotoluene	-	-	-	0.5	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
Acenaphthylene	-	-	-	-	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
3-Nitroaniline	-	-	-	-	10 U	10 U	10 U	10 U	10 U	10 U	10 UJ	-	10 U
Acenaphthene	-	2,200	-	670	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
2,4-Dinitrophenol	-	110	-	69	10 U	10 U	10 U	10 U	10 U	10 U	10 UJ	-	10 U
4-Nitrophenol	-	-	-	60	10 U	10 U	10 U	10 U	10 U	10 U	10 UJ	-	10 U
Dibenzofuran	-	150	-	-	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
2,4-Dinitrotoluene	-	-	-	1.1	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
Diethylphthalate	-	29,000	-	17000	5 U	5 U	1.1 J	5 U	1.1 J	5 U	1.1 J	-	5 U
Fluorene	-	1,500	-	1100	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
4-Chlorophenyl-phenylether	-	-	-	-	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
4-Nitroaniline	-	-	-	-	10 U	10 U	10 U	10 U	10 U	10 U	10 UJ	-	10 U
4,6-Dinitro-2-methylphenol	-	-	-	-	10 U	10 U	10 U	10 U	10 U	10 U	10 UJ	-	10 U
N-Nitrosodiphenylamine	-	-	17	33	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
1,2,4,5-Tetrachlorobenzene	-	11	-	0.97	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
4-Bromophenyl-phenylether	-	-	-	-	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
Hexachlorobenzene	1	29	0.053	0.2	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
Atrazine	-	-	-	3	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
Pentachlorophenol	1	1,100	0.71	1	10 U	10 U	10 U	10 U	10 U	10 U	10 UJ	-	10 U
Phenanthrene	-	-	-	-	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
Anthracene	-	11000	-	2100	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
Carbazole	-	-	4.3	-	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
Di-n-butylphthalate	-	3,700	-	2000	1 J	5 U	5 U	5 U	5 U	5 U	1 J	-	5 U

TABLE 32, continued
SVOCs in Groundwater
Units of µg/L (ppb)

Field Sample ID: Laboratory Sample ID: Location: Analytes	MCL/ MCLG	Superfund Chemical Data Matrix (SCDM) RDSC	Superfund Chemical Data Matrix (SCDM) CRSC	MDEQ Circular 7 Human Health Standards (Groundwater)	SSGW17 H30Y6 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-19 (downgradient of most potential sources)	SSGW18 H30Y7 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-10 (adjacent to Clark Fork River)	SSGW23 H30Z2 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (15762 Marcure Lane)	SSGW24 H30Z3 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (15700 Marcure Lane)	SSGW25 H30Z4 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (15740 Marcure Lane)	SSGW26 H30Z5 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (15400 Marcure Lane)	SSGW99 H30Z8 Duplicate of sample SSGW26	Relative Percentage Difference (RPD)	SSGW27 H30Z6 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (Clark Fork Cattle Ranch well)
Fluoranthene	-	-	-	130	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
Pyrene	-	1,100	-	830	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
Butylbenzylphthalate	-	7,300	-	1500	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
3,3'-Dichlorobenzidine	-	-	-	0.21	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
Benzo(a)anthracene	-	-	0.12	0.5	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
Chrysene	-	-	12	50	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
Bis(2-ethylhexyl)phthalate	6	730	6.1	-	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
Di-n-octylphthalate	-	730	-	-	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
Benzo(b)fluoranthene	-	-	-	0.5	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
Benzo(k)fluoranthene	-	-	1.2	5	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
Benzo(a)pyrene	0.2	-	0.012	0.05	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
Indeno(1,2,3-cd)pyrene	-	-	0.12	0.5	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
Dibenzo(a,h)anthracene	-	-	0.012	0.05	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
Benzo(g,h,i)perylene	-	-	-	-	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U
2,3,4,6-Tetrachlorophenol	-	-	-	-	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	-	5 U

J The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.
U The analyte was not detected above the CRQL.
UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.
RDSC Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration
CRSC Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration
MDEQ Montana Department of Environmental Quality
MCLG Maximum Contaminant Level Goal. A non-enforceable health goal that is set at a level at which no known or anticipated adverse effect on the health of persons occurs and which allows an adequate margin of safety.
MCL Maximum Contaminant Level. The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLG as feasible using the best available analytical and treatment technologies and taking cost into consideration. MCLs are enforceable standards.
µg/L micrograms per liter
ppb parts per billion
BOLD Background value
X.X Analytical Result > 3 x background value = observed contamination
☆ Concentration is > benchmark
Italic Background sample
Sources: EPA 2011 (CLP limits); EPA 2011 (SCDM); EPA 2011 (Low Concentration Detection Limits); MDEQ 2010 (Circular DEQ-7, Montana Numeric Water Quality Standards)

TABLE 33
Total Metals and Asbestos Groundwater
Units of µg/L (ppb)

Field Sample ID: **Laboratory Sample ID:** **Location:** **Analytes**	**MCL/ MCLG**	**Superfund Chemical Data Matrix (SCDM) RDSC**	**Superfund Chemical Data Matrix (SCDM) CRSC**	**SSGW01** **H30X0** **BACKGROUND** **Shallow aquifer groundwater grab sample collected from existing monitoring well located upgradient of mill (e.g., SMW-20)**	**SSGW02** **H30X1** **BACKGROUND** **Deeper aquifer groundwater grab sample collected from existing production well located upgradient of mill (production deep well #11)**	**SSGW03** **H30X2** **Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of sludge pond 17**	**SSGW04** **H30X3** **Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of sludge pond 3**	**SSGW05** **H30X4** **Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of landfill A**	**SSGW07** **H30X6** **Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of sludge pond 5**	**SSGW08** **H30X7** **Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of landfill 6**
Asbestos Content (%)	-	-	-	-	-	-	-	-	-	-
Aluminum	-	-	-	*20 U*	*20 U*	441	2360	7320	16700	795
Antimony	6	15	-	*2 U*	*2 U*	2 U	2 U	2 U	2 U	4.5
Arsenic	10	11	0.057	*1.6* ☆	*1 U*	27.1 ☆	20 ☆	39.3 ☆	40.2 ☆	99.5 ☆
Barium	2,000	2,600	-	*293*	*284*	1,860 ☆	1,360 ☆	2,140 ☆	3,640 ☆	129
Beryllium	4	73	-	*1 U*	*1 U*	1 UJ	1 UJ	2.2	2.2 J+ (1.76)	1 UJ
Cadmium	5	180	-	*1 U*	*1 U*	0.49 J-	1	1.1	0.94 J-	0.39 J-
Calcium	-	-	-	*49,300*	*62,000*	57,000	258,000	29,500	277,000	7,7600
Chromium	100	110	-	*2 U*	*2 U*	9	18.5	47.4	77.4	32.4
Cobalt	-	-	-	*1 U*	*1 U*	1.1 J (0.9)	2.3 J (1.8)	11.6 J (9.1)	34.4 J (27.1)	1.7 J (1.3)
Copper	1,300	-	-	*2 U*	*2 U*	6.7	19.5	89.1	177	8
Iron	-	-	-	*200 U*	*211*	2,630	5,090	30,700	72,500	6,160
Lead	15	-	-	*200 U*	*1 U*	1.4	6.6	35.9 ☆	105 ☆	2.5
Magnesium	-	-	-	*17,900*	*19,900*	1,220,000	172,000	52,100	178,000	29,600
Manganese	-	5,100	-	*1 U*	*7.1*	1,180	4,780	1,590	14,600 ☆	4,750
Nickel	-	730	-	*1*	*0.62 J (0.80)*	14.4	16.2	27	49.6	18.6
Potassium	-	-	-	*4,950*	*2,420*	70,600	23,400	46,200	26,700	20,300
Selenium	50	180	-	*5 U*	*5 U*	5 U	5 U	0.95 J (0.67)	5 U	0.98 J (0.70)
Silver	-	180	-	*1 U*	*1 U*	1 UJ	1 UJ	1 U	1 UJ	1 U
Sodium	-	-	-	*10,400*	*11,000*	1,170,000	821,000	1,920,000	797,000	812,000
Thallium	0.5	-	-	*1 U*	*1 U*	1 UJ	1 UJ	1 U	1 UJ	1 U
Vanadium	-	260	-	*5 U*	*5 U*	8.9	12.4	74.8	40.4	151
Zinc	-	11,000	-	*2 U*	*57.6*	8.3	79	77.7	118	9.8

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U The analyte was not detected above the CRQL.
RDSC Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration
CRSC Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration
MCLG Maximum Contaminant Level Goal. A non-enforceable health goal that is set at a level at which no known or anticipated adverse effect on the health of persons occurs and which allows an adequate margin of safety.
MCL Maximum Contaminant Level. The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLG as feasible using the best available analytical and treatment technologies and taking cost into consideration. MCLs are enforceable standards.
µg/L micro-gram per liter
ppb parts per billion
X.X Analytical Result > 3 x background value = observed contamination
☆ Concentration is > benchmark
Italic Background sample
Sources: EPA 2011 (CLP limits and Low Concentration Detection Limits); EPA 2011 (SCDM); MDEQ 2010 (Circular DEQ-7, Montana Numeric Water Quality Standards)

TABLE 33, continued
Total Metals and Asbestos Groundwater
Units of µg/L (ppb)

Field Sample ID: Laboratory Sample ID: Location: Analytes	MCL/ MCLG	Superfund Chemical Data Matrix (SCDM) RDSC	Superfund Chemical Data Matrix (SCDM) CRSC	SSGW10 H30X9 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of Pond 20 (landfill E)	SSGW89 H30Z9 Duplicate of sample SSGW10	Relative Percentage Difference (RPD)	SSGW11 H30Y0 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located downgradient of aeration basins	SSGW12 H30Y1 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of landfill G	SSGW13 H30Y2 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-14 (adjacent to Clark Fork River)	SSGW14 H30Y3 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-13 (adjacent to Clark Fork River)	SSGW15 H30Y4 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-17 (downgradient of most potential sources)	SSGW16 H30Y5 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-11 (adjacent to Clark Fork River)
AsbestosContent(%)	-	-	-	34.60 U	-	-	-	34.60 U	-	-	-	-
Aluminum	-	-	-	7,780	7290	3	11,300	1,720	96.9	255	250	324
Antimony	6	15	-	2.3 U	2.1 U	-	2 U	2 U	2 U	2 U	2 U	2 U
Arsenic	10	11	0.057	133 ☆	132 ☆	0	101 ☆	48.1 ☆	35.9 ☆	14.9 ☆	17.6 ☆	48.4 ☆
Barium	2,000	2,600	-	945	903	2	1270 ☆	202	110	98.1	89.5	91.5
Beryllium	4	73	-	1 U	1	-	1.2 U	1 U	1 U	1 U	1 U	1 U
Cadmium	5	180	-	0.79 J-	0.88 J-	5	0.82 J-	0.23 J-	1 U	1 U	1 U	1 U
Calcium	-	-	-	50,600	50,900	0	53,900	62,500	64,000	47,500	49,700	48,600
Chromium	100	110	-	132 ☆	130 ☆	1	167 ☆	49.7	3.5	5.1	6.6	4.7
Cobalt	-	-	-	8.3 J (6.5)	8.3 J	0	13.5 J (1.3)	2.4 J (1.9)	1 U	1 U	1 U	1 U
Copper	1,300	-	-	96.2	89.7	3	112	39.2	6.5	2.9	2.3	3
Iron	-	-	-	27,300	27,300	0	41,200	40,400	1,070	789	897	2,080
Lead	15	-	-	30.6 ☆	29.7	1	37.2 ☆	20.1 ☆	1 U	1 U	1 U	1 U
Magnesium	-	-	-	24,500	24,500	0	28,200	19,200	17,100	15,200	15,400	14,700
Manganese	-	5,100	-	3,090	3,180	1	5,910 ☆	4,360	1,750	2,820	4,440	3,550
Nickel	-	730	-	40.4	39.3	1	53.4	11.9	5.1	3.6	5.9	4.5
Potassium	-	-	-	8,840	8,770	0	13,600	18,800	13,500	19,600	16,200	22,200
Selenium	50	180	-	5 U	5 U	-	5 U	5 U	5 U	5 U	5 U	5 U
Silver	-	180	-	1 U	1 U	-	0.3 J (0.2)	1 U	1 U	1 U	1 U	1 U
Sodium	-	-	-	694,000	719,000	2	584,000	481,000	439,000	510,000	469,000	519,000
Thallium	0.5	-	-	1 U	1 U	-	1 U	1 U	1 U	1 U	1 U	1 U
Vanadium	-	260	-	92.8	93.1	0	61	31.7	22	21.7	25.1	29.9
Zinc	-	11,000	-	52.2	52.7	0	75.3	11	12.8	3	5	7.3

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RDSC Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration
CRSC Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration
MCLG Maximum Contaminant Level Goal. A non-enforceable health goal that is set at a level at which no known or anticipated adverse effect on the health of persons occurs and which allows an adequate margin of safety.
MCL Maximum Contaminant Level. The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLG as feasible using the best available analytical and treatment technologies and taking cost into consideration. MCLs are enforceable standards.
µg/L micro-gram per liter
ppb parts per billion
X.X Analytical Result > 3 x background value = observed contamination
☆ Concentration is > benchmark
Italic Background sample
Sources: EPA 2011 (CLP limits and Low Concentration Detection Limits); EPA 2011 (SCDM); MDEQ 2010 (Circular DEQ-7, Montana Numeric Water Quality Standards)

TABLE 33, continued
Total Metals and Asbestos Groundwater
Units of µg/L (ppb)

Field Sample ID: Laboratory Sample ID: Location: Analytes	MCL/ MCLG	Superfund Chemical Data Matrix (SCDM) RDSC	Superfund Chemical Data Matrix (SCDM) CRSC	SSGW17 H30Y6 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-19 (downgradient of most potential sources)	SSGW18 H30Y7 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-10 (adjacent to Clark Fork River)	SSGW23 H30Z2 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (15762 Marcure Lane)	SSGW24 H30Z3 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (15700 Marcure Lane)	SSGW25 H30Z4 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (15740 Marcure Lane)	SSGW26 H30Z5 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (15400 Marcure Lane)	SSGW99 H30Z8 Duplicate of sample SSGW26	Relative Percentage Difference (RPD)	SSGW27 H30Z6 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (Clark Fork Cattle Ranch well)
AsbestosContent(%)	-	-	-	-	-	-	-	--	-	-	-	-
Aluminum	-	-	-	1,010	251	20 U	20 U	20 U	20 U	20 U	-	20 U
Antimony	6	15	-	2 U	2 U	2 U	2 U	2 U	2 U	2 U	-	2 U
Arsenic	10	11	0.057	11.4 ☆	41.7 ☆	1.2 ☆	1.4 ☆	1.4 ☆	1.7 ☆	1.6 ☆	3	2.2 ☆
Barium	2,000	2,600	-	102	143	155	364	195	538	539	0	156
Beryllium	4	73	-	1 U	1 U	1 U	1 U	1 U	1 U	1 U	-	1 U
Cadmium	5	180	-	1 U	1 U	1 U	1 U	1 U	1 U	1 U	-	1 U
Calcium	-	-	-	30,500	56,300	73,100	69,000	70,100	63,600	64,100	0	132,000
Chromium	100	110	-	5.8	4.2	2 U	20 U	2 U	2 U	2 U	-	2 U
Cobalt	-	-	-	1 U	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	-	1 U
Copper	1,300	-	-	7.3	6.3	2 UJ	2 U	2 U	2 UJ	2 UJ	-	2 U
Iron	-	-	-	635	4,020	863	200 U	1,970	200 U	207	-	356 ☆
Lead	15	-	-	1.8	1.9	1 U	1 U	1 U	1 U	1 U	-	1 U
Magnesium	-	-	-	8,370	17,700	25,600	24,000	24,300	21,700	21,700	0	53,800
Manganese	-	5,100	-	935	3430	8.3	2.1	14.9	1.7	1.6	3	1 U
Nickel	-	730	-	2.3	5.5	0.53 J (0.41)	0.38 J (0.29)	0.81 J (0.63)	0.35 J (0.27)	0.3 J	8	1.9
Potassium	-	-	-	18,400	16,300	2,210	2,030	2,090	1,940	1,960	1	3,860
Selenium	50	180	-	5 U	5 U	5 U	5 U	5 U	5 U	5 U	-	0.7 J (0.5)
Silver	-	180	-	1 U	1 U	1 U	1 U	1 U	1 U	1 U	-	1 U
Sodium	-	-	-	346,000	515,000	42,900	26,900	36,100	18,400	18,600	1	160,000
Thallium	0.5	-	-	1 U	1 U	1 U	1 U	1 U	1 U	1 U	-	1 U
Vanadium	-	260	-	33	28.5	5 U	5 U	5 U	5 U	5 U	-	5 U
Zinc	-	11,000	-	6.6	13.7	7.2	9.4	20.2	35.3	38.2	4	18.6

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U The analyte was not detected above the CRQL.
RDSC Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration
CRSC Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration
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µg/L micro-gram per liter
ppb parts per billion
X.X Analytical Result > 3 x background value = observed contamination
☆ Concentration is > benchmark *Italic* Background sample
Sources: EPA 2011 (CLP limits and Low Concentration Detection Limits); EPA 2011 (SCDM); MDEQ 2010 (Circular DEQ-7, Montana Numeric Water Quality Standards)

TABLE 33a
Dissolved Metals Groundwater
Units of µg/L (ppb)

Field Sample ID: Laboratory Sample ID: Location: Analytes	MCL/ MCLG	Superfund Chemical Data Matrix (SCDM) RDSC	Superfund Chemical Data Matrix (SCDM) CRSC	MDEQ Circular 7 Human Health Standards (Groundwater)	SSGW01 MH30X0 BACKGROUND Shallow aquifer groundwater grab sample collected from existing monitoring well located upgradient of mill (e.g., SMW-20)	SSGW02 MH30X1 BACKGROUND Deeper aquifer groundwater grab sample collected from existing production well located upgradient of mill (production deep well #11)	SSGW03 MH3B85 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of sludge pond 17	SSGW04 MH3B86 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of sludge pond 3	SSGW05 MH3B87 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of landfill A	SSGW07 MH3B88 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of sludge pond 5	SSGW08 MH3B89 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of landfill 6
Aluminum	-	-	-	-	*7.1 J (9.2)*	*2.5 J (3.3)*	67.8	53.7	176	31.2	711
Antimony	6	15	-	6	*0.19 J (0.24)*	*2 U*	2 U	2 U	0.35 J	0.37 J	4.3
Arsenic	10	11	0.057	10	*1.6* ☆	*0.93 J (1.26)* ☆	26.2 ☆	16.1 ☆	31 ☆	32.4 ☆	95.9 ☆
Barium	2,000	2,600	-	1,000	*298*	*276*	1,820 ☆	1,190 ☆	481	3,190 ☆	121
Beryllium	4	73	-	4	*1 U*	*1 U*	0.17 J	1 U	0.38 J	0.16 J	0.63 J
Cadmium	5	180	-	5	*1 U*	*1 U*	0.67 J	0.13 J	0.62 J	0.25 J	0.44 J
Calcium	-	-	-	-	*51,200*	*62,900*	57,000	185,000	21,400	292,000	77,400
Chromium	100	110	-	100	*0.43 J (0.56)*	*0.68 J (0.88)*	7.3	5.8	37.7	7.3	32.2
Cobalt	-	-	-	-	*0.41 J (0.52)*	*0.28 J (0.36)*	0.95 J	1.6	4	2.1	2.8
Copper	1,300	-	-	1,300	*1.8 J (2.3)*	*0.49 J (0.61)*	2.3	2.1	4.1	2.3	4
Iron	-	-	-	300	*146 J (185)*	*152 J (193)*	1,890 ☆	1,110 ☆	7,250 ☆	18,100 ☆	6,190 ☆
Lead	15	-	-	15	*0.16 J (0.21)*	*0.32 J (0.42)*	0.99 J (0.76)	0.71 J (0.54)	1.4	0.56 J	1.7
Magnesium	-	-	-	-	*18,900*	*20,400*	1,190,000	154,000	51,200	151,000	28,900
Manganese	-	5,100	-	50	*1.1*	*4.9*	1,100 ☆	4,530 ☆	726 ☆	9,240 ☆	4,790☆
Nickel	-	730	-	100	*0.6 J (0.8)*	*0.61 J (0.79)*	13.8	10.2	12.2	8.9	19.9
Potassium	-	-	-		*5,170*	*2,510*	68,500	21,000	47,000	23,100	19,700
Selenium	50	180	-	50	*5 U*	*5 U*	1.2 J	0.94 J	1.8 J	1.4 J	1.7 J
Silver	-	180	-	100	*1*	*1 U*	0.13 J	1 U	0.14 J	0.11 J	0.14 J
Sodium	-	-	-	-	*11,000*	*11,500*	1,090,000	791,000	202,0000	778,000	766,000
Thallium	0.5	-	-	2	*1 U*	*1 U*	1 U	1 U	1 U	0.091 J	1 U
Vanadium	-	260	-	-	*0.91 J (1.14)*	*0.86 J (1.07)*	6.8	7.4	55.2	9.8	141
Zinc	-	11,000	-	2,000	*5.8*	*14.4*	2.9	3	4.3	3.6	10.4

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RDSC Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration
CRSC Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration
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µg/L micro-gram per liter
ppb parts per billion
X.X Analytical Result > 3 x background value = observed contamination
☆ Concentration is > benchmark
Italic Background sample
Sources: EPA 2011 (CLP limits and Low Concentration Detection Limits); EPA 2004 (SCDM); MDEQ 2010 (Circular DEQ-7, Montana Numeric Water Quality Standards)

TABLE 33a, continued
Dissolved Metals Groundwater
Units of µg/L (ppb)

Field Sample ID: Laboratory Sample ID: Location: Analytes	MCL/ MCLG	Superfund Chemical Data Matrix (SCDM) RDSC	Superfund Chemical Data Matrix (SCDM) CRSC	MDEQ Circular 7 Human Health Standards (Groundwater)	SSGW10 MH3B90 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of pond 20 (landfill E)	SSGW89 MH3B98 Duplicate of sample SSGW10	Relative Percentage Difference (RPD)	SSGW11 MH3B91 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located downgradient of aeration basins	SSGW12 MH3B92 Shallow aquifer groundwater grab sample collected from temporary Geoprobe® well located within or downgradient of landfill G	SSGW13 MH30Y2 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-14 (adjacent to Clark Fork River)	SSGW14 MH30Y3 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-13 (adjacent to Clark Fork River)	SSGW15 MH30Y4 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-17 (downgradient of most potential sources)	SSGW16 MH30Y5 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-11 (adjacent to Clark Fork River)
Aluminum	-	-	-	-	216	264	10	210	160	93.1	235	209	317
Antimony	6	15	-	6	1.4 J	2.1 U	-	0.75 J (0.59)	0.52 J	0.84 J (0.66)	0.61 J	0.19 J	0.45 J
Arsenic	10	11	0.057	10	121 ☆	109 ☆	5	90.4 ☆	63.3 ☆	35.7 ☆	13 ☆	14.5 ☆	44.8 ☆
Barium	2,000	2,600	-	1,000	600	495	10	189	135	110	90.4	93.3	90.2
Beryllium	4	73	-	4	0.19 J	1 U	-	0.14 J	0.088 J	1 U	1 U	1 U	1 U
Cadmium	5	180	-	5	0.33 J	1 U	-	0.24 J	0.15 J	0.21 J	1 U	1 U	0.12 J
Calcium	-	-	-	-	44,200	39,600	5	47,600	47,400	65,600	47,300	50,500	49,200
Chromium	100	110	-	100	11.6	13.1	6	10.5	4.5	5.1	4.6	5.4	4.5
Cobalt	-	-	-	-	0.98 J	1.2	-	2.2	1.3	0.66 J	0.73 J	0.61 J	0.48 J
Copper	1,300	-	-	1,300	2.3	2.9	12	3.7	11.7	4.9	3.1	3	2.7
Iron	-	-	-	300	2,910 ☆	2,350 ☆	11	6,630 ☆	6,510 ☆	1,070 ☆	896 ☆	576 ☆	2,050 ☆
Lead	15	-	-	15	1.2	2.2	29	4.6	8.6	0.62 J	0.83 J (0.63)	0.28 J	0.69 J (0.53)
Magnesium	-	-	-	-	19,400	17,200	6	2,0300	14,600	17,900	15,300	16,300	15,100
Manganese	-	5,100	-	50	1,320 ☆	1,180 ☆	6	4260 ☆	3630 ☆	1,800 ☆	2,660 ☆	4,170 ☆	3,580 ☆
Nickel	-	730	-	100	14	13.7	1	11.2	5.4	4.8	3.9	5.3	4.3
Potassium	-	-	-		7,200	7,130	0	10,500	16600	14,000	20,200	16,500	22,700
Selenium	50	180	-	50	1.1 J	1.4 J	12	0.72 J	5 U	5 U	5 U	5 U	5 U
Silver	-	180	-	100	0.11 J	1 U	-	0.1 J	0.097 J	0.12 J	1 U	1.5	1 U
Sodium	-	-	-	-	693,000	675,000	1	549,000	440,000	485,000	533,000	483,000	560,000
Thallium	0.5	-	-	2	1 U	1 U	-	1 U	1 U	0.12 J	1 U	1 U	1 U
Vanadium	-	260	-	-	65.8	67.4	1	35.7	32.4	21.9	20.1	22.6	30.2
Zinc	-	11,000	-	2,000	10.3	6.7 J	21	5.3	2.7	4.7	3.8	13.5	6.2

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µg/L micro-gram per liter
ppb parts per billion
X.X Analytical Result > 3 x background value = observed contamination
☆ Concentration is > benchmark
Italic Background sample
Sources: EPA 2011 (CLP limits and Low Concentration Detection Limits); EPA 2004 (SCDM); MDEQ 2010 (Circular DEQ-7, Montana Numeric Water Quality Standards)

TABLE 33a, continued
Dissolved Metals Groundwater
Units of µg/L (ppb)

Field Sample ID: Laboratory Sample ID: Location: Analytes	MCL/ MCLG	Superfund Chemical Data Matrix (SCDM) RDSC	Superfund Chemical Data Matrix (SCDM) CRSC	MDEQ Circular 7 Human Health Standards (Groundwater)	SSGW17 MH30Y6 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-19 (downgradient of most potential sources)	SSGW18 MH3B93 Shallow aquifer groundwater grab sample collected from existing groundwater monitoring well SMW-10 (adjacent to Clark Fork River)	SSGW23 MH3B94 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (15762 Marcure Lane)	SSGW24 MH3B95 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (15700 Marcure Lane)	SSGW25 MH3B96 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (15740 Marcure Lane)	SSGW26 MH3B97 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (15400 Marcure Lane)	SSGW99 MH3B99 Duplicate of sample SSGW26	Relative Percentage Difference (RPD)	SSGW27 MH30Z6 Deeper aquifer groundwater grab sample collected from existing domestic well located crossgradient of mill (Clark Fork Cattle Ranch well)
Aluminum	-	-	-	-	562	260	20 U	20 U	20 U	3 J	20 U	-	6.8 J
Antimony	6	15	-	6	0.47 J	1.1 J (0.87)	2 U	2 U	2 U	2 U	2 U	-	2 U
Arsenic	10	11	0.057	10	9.2 ☆	42.2 ☆	1 ☆	0.68 J ☆	0.91 J ☆	1.9 ☆	1.3 ☆	19	2.1 ☆
Barium	2,000	2,600	-	1,000	71.8	143	144	345	193	520	500	2	159
Beryllium	4	73	-	4	1 U	0.29 J	0.062 J	1 U	1 U	0.11 J	1 U	-	1 U
Cadmium	5	180	-	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	-	1 U
Calcium	-	-	-	-	29,300	56,200	68,600	65,900	68,400	61,300	59,400	2	133,000
Chromium	100	110	-	100	4.7	3.4	0.69 J	0.7 J	0.51 J	0.81 J	2 U	-	2 J
Cobalt	-	-	-	-	0.41 J	0.62 J	0.14 J	0.55 J	0.3 J	0.44 J	1 U	-	0.38 J
Copper	1,300	-	-	1,300	3.8	5.6	1.4 J	1.4 J	1.5 J	2.2	2 U	-	1.4 J
Iron	-	-	-	300	384 ☆	4,070 ☆	610 ☆	346 ☆	958 ☆	333 ☆	293	6	362 ☆
Lead	15	-	-	15	0.97 J (0.74)	1.7	0.72 J	0.67 J	0.58 J	0.83 J	1.2	-	0.29 J
Magnesium	-	-	-	-	8,380	17,400	23,800	22,500	23,800	20,800	20,100	2	54,900
Manganese	-	5,100	-	50	921 ☆	3,340 ☆	7.9	3.5	12	3.4	3.9	7	7.6
Nickel	-	730	-	100	2.5	5.6	1.3	1.2	1.1	1.2	1.2 U	-	2.6
Potassium	-	-	-		18,300	16,000	2,060	1,930	2,020	2,000	1,820	5	3,970
Selenium	50	180	-	50	5 U	5 U	5 U	5 U	5 U	0.69 J	5 U	-	5 U
Silver	-	180	-	100	1 U	1 U	1 U	1 U	1 U	1 U	1 U	-	1 U
Sodium	-	-	-	-	357,000	494,000	39,100	24,600	35,200	17,500	17,600	0	162,000
Thallium	0.5	-	-	2	1 U	1 U	0.1 J	1 U	1 U	0.11 J	1 U	-	1 U
Vanadium	-	260	-	-	28.3	31.4	5 U	5 U	5 U	5 U	5 U	-	1.5 J
Zinc	-	11,000	-	2,000	6.2	3.9	7	12.7	14.6	39.8	36.3 J	5	20.2

J The associated numerical value is an estimated quantity because quality control criteria were not met. Presence of the analyte is reliable.
U The analyte was not detected above the CRQL.
RDSC Superfund Chemical Data Matrix (SCDM) Reference Dose Screening Concentration
CRSC Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration
MCLG Maximum Contaminant Level Goal. A non-enforceable health goal that is set at a level at which no known or anticipated adverse effect on the health of persons occurs and which allows an adequate margin of safety.
MCL Maximum Contaminant Level. The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLG as feasible using the best available analytical and treatment technologies and taking cost into consideration. MCLs are enforceable standards.
µg/L micro-gram per liter
ppb parts per billion
X.X Analytical Result > 3 x background value = observed contamination
☆ Concentration is > benchmark
Italic Background sample
Sources: EPA 2011 (CLP limits and Low Concentration Detection Limits); EPA 2004 (SCDM); MDEQ 2010 (Circular DEQ-7, Montana Numeric Water Quality Standards)

APPENDIX A

Project Photolog

Photo 1
Geoprobe® stuck in Sludge Pond 4 due to soft surface. John Noto (UOS) on left. Looking east.

Photo 2
Geoprobe® at location SSGW07 on berm between sludge ponds 4 (far right) and 5 (left). Looking west.

Photo 3
SSSO09 source sample location at edge of Sludge Pond 5. Looking northwest.

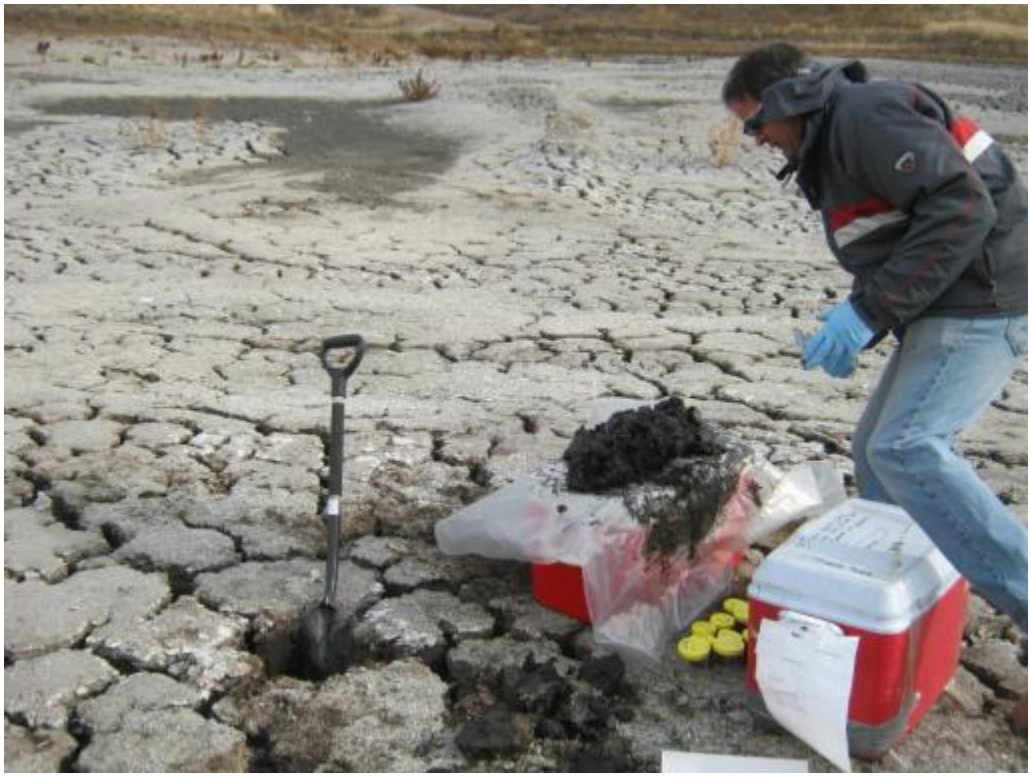

Photo 4
John Noto (UOS) collecting surface soil/ source sample SSSO1402 at northern end of Emergency Spill Pond. Looking east.

Photo 5
John Noto (UOS) collecting SSSO1702 opportunity surface soil/ source sample from area of possible sludge adjacent to Landfill A. Note sinkhole in background and lack of cover. Looking north.

Photo 6
John Noto (left) and Jeff Miller (right)(both UOS) collecting rinsate sample SSSW89 from shovel used to collect some surface soil samples.

Photo 7
Aerial photo (undated, source unknown) from M2Green (formerly Smurfit-Stone) office building showing former landfarm area (area with linear piles in bottom half of photo).

Photo 8
Jeremiah Ervin (UOS) collecting asbestos sample SSSO0302 from unvegetated area within former landfarm area. Looking north.

Photo 9
Wood chip covering over Sludge Pond 3. John Noto (UOS) and Carlo Arendt (Hydrometrics, Inc.) collecting SSSO0702 source sample in background. Looking southwest.

Photo 10
Northern berm of Sludge Pond 4 showing layering of sludge, standing water, and lack of cover. Looking east.

Photo 11
Geoprobe® at sample location SSSO0514 within Sludge Pond 17. Photo shows sparse vegetation and pond infall in foreground. Looking southwest.

Photo 12
Northern end of Emergency Spill Pond wet cell showing standing water and lack of cover. Geoprobe® is at location SSGW11 on northern berm of pond. Looking northeast.

Photo 13
Scott Mason (Hydrometrics, left) and Jeff Miller (UOS, right) collecting surface soil/ source sample SSSO1602 from Wastewater Pond 2. Note sparse vegetation and lack of cover. Looking south.

Photo 14
Geoprobe® on top of Landfill A at SSGW05 location. Note vegetative cover. Looking northeast.

Photo 15
Geoprobe® on top of Landfill 6 (edge of landfill is roughly marked by the lighter vegetation in the distance) at SSGW08 location. Note vegetative cover. Looking north.

Photo 16
Geoprobe® at northwest corner of Landfill G (raised area in background) at SSGW12 location. Note vegetative cover. Looking east.

Photo 17
John Noto (UOS) conducting air monitoring of the breathing zone during installation of SSGW07. Ken Manchester (MSE Technology Applications, Inc.) on right. Looking northeast.

Photo 18
Photo showing USFWS-identified wetlands on an island across the Clark Fork River (far background). UOS was unable to access these wetlands during the assessment. John Noto (UOS) and Carlo Arendt (Hydrometrics) in foreground collecting surface water sample SSSW09. Looking west.

Photo 19
Evidence of recreation (tire tracks beneath date stamp) on sand bar within Clark Fork River, adjacent to Pond 11. The remains of a camp fire are off the picture to the right. Looking northeast.

APPENDIX B

Project Field Logbooks

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Smurfit-Stone M:11
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URS OPERATING SERVICES, INC.
1099 18th Street, Suite 710
Denver, Colorado 80202
Tel: (303) 291-8212
Cell: (720) 810-0790
Fax: (303) 291-8296
email: Jeff_Miller@urscorp.com

JEFF MILLER
SENIOR ENVIRONMENTAL SCIENTIST

Address _____

Phone _____

Project _____

CONTENTS

PAGE	REFERENCE	DATE

ONE CALL ID: 100056
(720 219 7891)
★ | 800 424 5555
Mon - ~~Fri~~ 10 a.m.

~~1107 6897~~
~~1107 6903~~
~~1107 6907~~
1107 6909 1107 6927
1107 69 11 1107 6925
1107 6914
1107 6916 1107 6922
1107 6919

2

10-23-11 (Sun) Jeff Miller

0700 Left Denver. Met Amy Gray near Ft. Collins to grab Tyson tubing.

~11:30 Stopped in Casper for lunch.

~1520 Stopped in Billings to get preservation.

~2030 Arrive Missoula. Dinner

230 Check in hotel. Done for day.

10-23-11

3

10-24-11 (Mon) Jeff Miller

0730 Meet for breakfast (JM, AM, JN). Met Rob Parker (RP) briefly.

0830 Off to Smurfit-Stone site for meeting. Those pres. to: JM, AM, JN (START), RP (EPA), Carlo Arendt (CA), Scott Mason (Env. Doug Parker (Xcel Hydrometrics), Neal Marker (NM), Tom Dauenhauer (TD), and Bob Anderson (all 3 Smurfit). Discussed logistics, access, &c. Drillers not to arrive until Wednesday.

1020 Out to check locations w/ utility locators. All locations cleared

~1100 Back to Missoula for lunch + to pick up Jeremiah Envih.

1315 Back out to Smurfit-Stone (SS) Plan will be to all go to first SW/SE location on O'Keefe Creek (w/ Hydrometrics), to ensure sampling methods b/w teams and consultants are the same. 10/24/11

10·24·11 (cont) Jeff Miller

~1400 Began collecting SSSW/SED1.

1450 Jeff & I drive to SSSW/SE04 location (background on Clark Fork River).

1520 PH 8.24
T 10.2°C
Cond. 266 µS
Sal. 118
TDS 189

1522 SSSE/SW04 collected.

Moved on to last sample loc. on O'Keefe.

16:11 - Ph = 8.45
Cond = 322 µS
Temp - 8.2°C
TDS = 230 ppm
Salinity = 144 ppm

16:11 Collected SSSE/SWC3 by culvert on O'Keefe Creek.

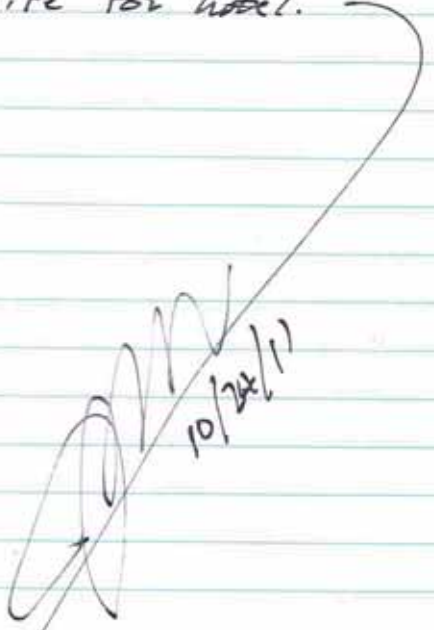
17:25 - Collect H_2O parameters
Ph - 8.32
Cond = 273.45
Temp = 9.7°C
TDS = 143
Salinity = 122 ppm

10/24/11 (cont) Jeff Miller

17:30 Collected sample SSSE/SW06 below outflow #1 on the Clark Fork

18:30 Back at Smurfit office packing ~~SW06~~ filtering and preserving samples.

19:30 Left site for hotel.



(TUES)

10-25-11, E

07:00 - Depart hotel and leave for site.

08:00 - Arrive @ Smurfit Stone site

08:30 - H&S Meeting
- Slips, trips, Fall
- River Safety (Rip rap, Hypothermia)
- Driving safety
- Weather safety
- Hydration

09:00 - Weather = Overcast currently in mid 40°F. 30% chance of rain for the day. Notes by Jeff Miller:

0930 Left office at Smurfit for Pond 2 to do surface soil samples.

0955 Collected SS501502

Dug to ~ 8". Bottom - 2" was plastic clay, top 6" was clayey silt.

Sample collected in small (10' diameter) depression. Was a tan microbial/algal mat covering.

1036 Collected SS501602

JM 10/25/11

10.25.11 (cont.) Jeff Miller

Sample collected w/in an unvegetated part of Pond 2 ~ 100' from western berm of the pond. Profile of soil sampled was sandy silty. Small blebs of, dark organic finer grained material. Some wood/branch pieces.

1100 Back to office. JE & I to team to get bottles, pumps, other equip.

1300 Grabbed lunch.

1345 Back to site. Discussed plan w/ Joyce.

1430 JM + I meet Ken Crisp to travel to CF Cattle Company Ranches.

1530 Arrive CF Cattle Co. Discuss poor water quality with Ken Crisp + owner (Vose Babcock).

Will sample 'old' well. No drillers log, but 'new' well is supposed to be screened in gravel at similar interval (new well is screened 152-162' bgs.) Very similar water quality results for both wells. No pump in 'new' well, which is ~ 48 psi (~150' to the MW)

JM 10/25/11

10·25-11 (cont.) Jeff Miller

Pump rate ≥ 20 gpm.

After pumped for >30 min:

1550

pH 7.91
Temp. 10.9°c
cond. 1,635 µS
TDS 1.16 pp thousand
sal. 804

Flowrate rate reduced to ~6.5 gpm

1600

pH 7.91
Temp 10.9
cond. 1,640 µS
TDS 1.16 ppt
sal. 805

1605 collected SSGW27

Water level in new well:

10.3 bgs
12.0 btoc.

1630 Began drive back to office.

10·25-11 (cont.) Jeff Miller

1730 back at office. Preserved, filtered + labelled samples.

1900 left office. Arrived at hotel.

10.25.11

10-26-11 (wed) Jeff Miller

0630 Met team in hotel. Drove to store for ice, then office. I proceeded to background soil loc.

0905 Collected SSSOΦ1Φ2

1005 Drillers called. Are at local truck stop, nearly on site. (Drillers: MSE, Butte) John + I out to SSGW02 (deep bg location). Other team is just finishing shallow bg well (SSGW01)

1030 Collected SSGW02 from deep well # 11. (See field form.)

1100 Out to ~~Landfill 6~~ Jay security shack to meet drillers. Dropped off GW~~Φ~~ sample w/ Jen.

1120 Out to Landfill 6 with drillers + JN.

1215 Begin pushing at SSSOΦ7 with Sludge Pond 3. No recovery until ~14' bgs. Wood chips ≥ 20" deep seem to be plugging the cutting shoe. Will drive a dual pt. to ~10' + try again, sampling surface (0-2') soil/source from ~~Φ~~

~~10/26/11~~

10-26-11 (cont) Jeff Miller

location ~275' ~~SW~~ East

1300 SSSOΦ702 collected

1345 SSSOΦ716 collected

MSE offset ~1' from above sample location and install monitoring well. Sludge to 16' bgs, overlying med., clean sand. Screen set from 20'-30' bgs.

1410 Noticed vapors (clear, distorting the air). Retrieved PID/FID to analyze. FID exceeded limits, PID ~ 40-50 ppm, so large amt. of methane. Is also H_2S component.

Called Tom V. (G2) to have H_2S monitor sent up asap.

1430 Butte lunch break. Ran samples to office.

Fedex: 5500 Mormont Rd
Missoula MT
59802

10/26/11

10·26·11 (cont.) Jeff Miller

1530 Mob to SSSO ϕ8 location w/in Sludge Pond 3.

1620 Bottom of sludge: 16' bgs.
TD of bore: 18.5' bgs.

1630 Collected SSSOϕ816

1705 Collected SSSOϕ802

1800 Finished installing well at Landfill 4A. Did not log/core, rather just pushed to TD of 30'. 20-30' bgs interval is screened. Will be sample SSGWϕ5 location. Sand to 8'-4" bgs, bentonite (granular) to surface.

1845 Back to office. Load coolers, two vehicles.

1710 Left office for hotel. Done in field for day

10.26.11

10·27·11 (Thurs.) Jeff Miller

0630 Left hotel. Packed bottle shipment in car.

0710 On site. Waiting for Neal. Packed vehicle. Changed batteries in Slope Indicator.

0830 Out to site waiting on Neal.

0835 Out to SSSOϕ7 (GWϕ4).
▽: 24.15 btoc
20.6 bgs.
TD: 32.3 btoc
28.7 bgs

0900 Neal moves up to to Sludge Pond 17 location SSSOϕ5. Surface soil already collected here by other sampling team. Adjacent to outfall from. Depth of sludge = ~13.5' bgs.

1010 Collected SSSOϕ514

1110 Collected SSSOϕ612
Offset + placed monitoring well. Screen 20-30' bgs. Sand to 12', bentonite to surface.

1130 Mob to SSSOϕ9 location

10/27/11

10.27.11 (cont.) Jr. 66 Miller

w/in sludge pond 5. Located in near most eastern corner. Surface ~1' appears to be lime.

1410 SSSC0902 collected from east end of Sludge Pond 5.

1350 SS500916 collected from east end of sludge pond 5.

1540 SSS01102 collected from E end, sludge Pond 4

~1630 Moving drilling to SSS012 02/GW location + drilling got stuck.

1720 Collected SSS012Φ2 from sludge pond 4, surface.

1745 SSS01002 collected. -pond sludge pond 5.

1800 Left field for field office. Repacked equipment for tomorrow. Iced + preserved samples.

2000 Left site for hotel.

10/27/11

10.28.11 (Friday) Jr. 66 Miller

0630 Met at hotel. To Safeway for H+S drinks.

0745 At site, checked in. Loaded vehicles. J. Erin + A. Mahrou will continue sampling Geoprobe wells.

0830 Out to Geoprobe, which is set up on the dike b/w Sludge Ponds 4+5. Will rename this location SSGWΦ7.

0930 Well completed to ~42' bgs. V. high methane hits on P10/Φ10. Screened from 22-42' bgs. Open to 23' bgs.

Sand 23-16'. Bentonite to surface.

1000 Mob trailer + probe over near Pond 8 dry cell.

1030 Set up at SSGW10 location.

1200 Done at " "

1230 Mob to SSGW11 location. Spoke w/ Rob Parker. Lack of screen, will eliminate SSGW12.

10/28/11

10-28-11 (cont.)

1330 Collected SSSO14Ø2 from Emer. Spill pond web cell.
plus dup: SSSO89Ø2
& MS/MSD (SSSO14Ø2)
1400 Finished ab GW11, north end of emer spill pond. Screened 28-38' bgs.
1510 Over to Landfill (Pond) 6. Placed well equidistant b/w GW07 and SMW-16, in an area with little/stressed vegetation.
1540 Finished (see well log field sheet). Called SSGWØ8.
1600 Over to SSSO13 w/in Emer. Spill pond dry cell to collect surface sample.
1640 Collected SSSO13Ø2 +dup. SSSO99Ø2
1645 " " SSSO17Ø6
MS/MSD also collected here.
1710 Moved drill rig over to Emergency Spill Pond web cell to try and get a deep sample & well installed. Rig got stuck again.
900 Rig out of pond. Back to field office.
2010 Done for day — Dan 10/29/11

10-29-11 (Saturday) Jeff & Miller

0720 On site after stopping for DI water.
0815 Out to SSGW12.
0910 Finished ab ".
▽ ≈ 14' btoc.
TD: 38'
0900 Collected MnSabc blank in the field by pouring DI water over the shovel used to collect MnX surface soil locations, as well as a cutting shoe used by the drillers.
900 SSSW89 collected (MnSabc blank)
J. Erwin + A. Mahrer will collect SSGW12.
945 J. Nobo + myself will do flow measurements on O'Keefe Cr.
1130 At. 15400 Marcure Lane Dick Lucier.
1150 collected SSGW26
1150 " SSGW99 (dup.) — Dan 10/29/11

10-29-11 (cont.)

flow rate 38s/5 gal.

flow time	gal	pH/Temp/cond
1133	start	

	salt	TDS			
1152	265	390	7.56	10.9	550
1155	265	390	7.87	10.9	550
1157	265	390	7.95	10.9	550
1200	265	390	8.01	10.9	549

1225 Down to 15762 Marcure
Kelly Stenerson.

SSGW23 20s/5 gals

Flow time	salt	TDS	pH	T	cond
1225	349	508	8.08	11.6	716
1237	347	505	7.93	11.4	713
1241	351	512	7.90	11.1	721

1245 Collected SSGW23 10/29/11

10-29-11 (cont.)

SSGW25 G15740
Marcure

1302 open spigot in front yard
21 sec/5 gal

	salt	TDS	pH	T	cond
1314	325	476	7.96	10.9	671
1317	325	475	7.95	11.0	670
1319	326	475	7.97	11.0	671

1320 Collected SSGW25

1325 to 15700 Marcure
(Ron Shepard) GW24
1330 well on 38s/5 gals

Time	salt	TDS	pH	T	cond
1337	301	441	8.00	10.6	622
1341	300	440	8.00	10.6	620
1343	301	442	7.99	10.7	622

1350 Collected SSGW24. 10/29/11

20 10.29.11 (cont.)

☆ Are these the same well?

1410 Back to office to preserve, filter, pack samples

1605 Left site for town. Cassel vehicles.

1640 Left Missoula for Bozeman

2000 Arrive Bozeman. Done for day

10-29-11

21

10.30.11 (Sunday) Jeff Miller

0800 Left hotel for Denver.

~1900 Arrive Denver.

10/30/11

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1099 18th Street, Suite 710
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Tel: (303) 291-8212
Cell: (720) 810-0790
Fax: (303) 291-8296
email: Jeff_Miller@urscorp.com

JEFF MILLER
SENIOR ENVIRONMENTAL SCIENTIST

Address _____

_____

Phone _____

Project _____

_____

_____

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CONTENTS

PAGE	REFERENCE	DATE
	Neil 406-360-8145 cell	

7/24/11

Surface water/Sods -
Site notes in other log book

1400
SSW/SE01
8.6°C, pH 9.02, 294 µS
TDS 208 141 ppm salt

location on creek
of Keefe Creek.
N. side of creek
Collect samples & split
Samples
Sample collected by T. Noto
N. side of creek

SSSW/SE02
pH 9.03 8.5°C, 294µS
~~TDS 140~~ ~~208 ppm Salt~~
TDS 140ppm TDS 208
Sample Collected @ 15:25
Location on E. side of bridge
along O'keefe Creek
Collected by J. Noto
Samples Collected & Split.
N. Side of creek - E of Rd

7/24/11

SSSW SE03 ~~05~~
Collected @ 1645
10°C 9.22 pH
cond: 250µS TDS 178ppm
salt 120 ppm
Location on E Side of
Clark Fork
Collected Samples & Split
Collected By J. Noto

SSSW/SE04 1745
9.7°C 9.21 pH
cond: 239µS TDS 168 ppm
salt: 115ppm
on NE bank of Clark Fork
Collected Samples & Split
Collected by John Noto

note: all samples collected
w/ lab clean bottles, dedicated
scoops

10/25/11

Surface water/seds book

calibrate pH/temp/cond meter PCS #5

555W/55E09

Time 10:15

- Collected Samples & Split
- Collected by John Noto

pH 8.45 7.8°C

~~3324~~ 332 µs = cond

TDS: 232 Salt: 149 ppm

555W/55E09

time 11:35 pH: 8.66 8.3°C

Collected by John Noto

cond: 251 µs TDS 178 Salt: 114 ppm

Collected Samples & Split,

55E09 collected by John N and Alex M. f.g. Sand, sidewater/backwater past side channel

555W10/555E~~09~~10 JM

time 12:40 8.65 pH 8.4°C cond: 258 µs

Collected by John Noto

TDS: 185 Salt: 119 ppm

Sample taken on NE Bank of Clark Fork 150' N of gravel bar. Taken at backwater (swirling)

55E~~09~~10 JM - J. N. & Alex M collect seds from end of gravel bar f.g. sand~~s~~ outfall side channel is just upstream

10/25/11, JF

14:47 - Collected surface soil Sample 55506202 at Landfarm

15:15 - Collected surface soil sample 55506302. at Landfarm
15:40 - Collected surface soil 55506402 at Landfarm.
* Landfarm Area Screened with PID FID readings from 3ppm-4ppm
* Landfarm area walked & visually surveyed for stained soils and distressed vegetation. No apparent stained soil areas were viewed. Areas ~~where~~ where distresed vegetation ~~was~~ was viewed were sampled.

~~17:10 JF~~
16:25 - Surveyed Sludge 17 area for Geophysics Areas
16:50 - Collect surface soil Sample 55506602 on metals end sludge 17.
17:10 - Collect surface soil Sample 55506502 on ~~Sludge~~ Nine of Sludge.
* Sludge 17 - has Fly ash & caustic lime visible in soil.

10/25/11, JF

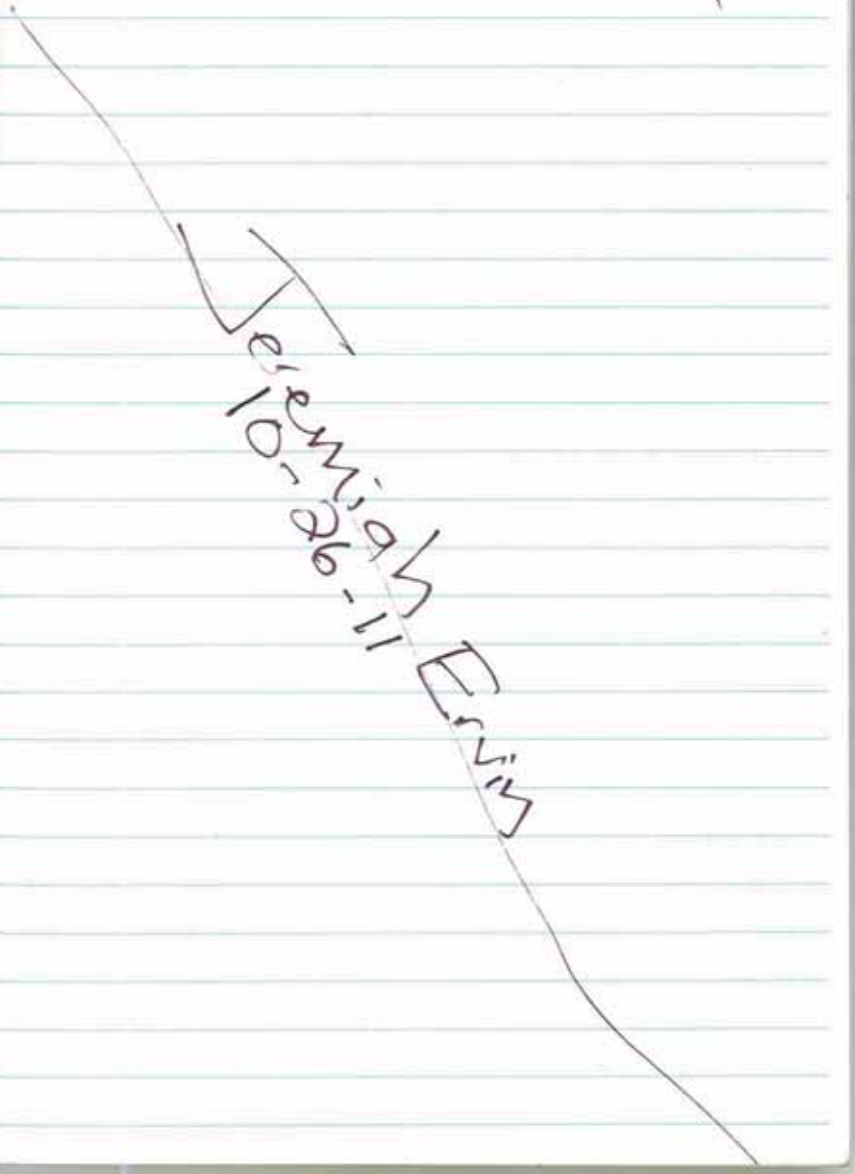
17:30 - Head back to office.
17:45 - Organize equipment used + put on charger.
17:55 - Filter collected water samples for dissolved metals analysis.
Jen Patreau - Labeling Samples to go to lab.
Jeff Miller preserving samples.
18:30 - Demob. site for the day. Sign out of Smurfit Stone Checkin bldg.

Jeremiah Irvin
10-25-11

10-26-11, E
07:30 Arrive onsite @ Smurfit Stone.
07:35 - Calibrating Wate Quality Parameters.
07:45 - H&S Meeting
- Slips, trips, falls
- Wildlife Safety
- Weather Safety
- Hydration - Sunscreen
08:00 - Pack up vehicles for the day.

09:30 - SSGW01 Sample collected
10:55 - SSGW13 Sample collected
* Sulfur smell/Brownish color
12:05 - SSGW14 Sample collected
* Sulfur smell/Brownish in color
15:05 - SSGW15 Sample collected.
* Sulfur smell/Brownish color.
- See field forms for groundwater sampling data.
17:05 - SSGW16 Sample collected
* Light Sulfur odor/Dark Brownish Color
18:20 - SSGW17 Sample collected
* Light Sulfur odor/Dark Brown Color
18:30 - Organize and charge equipment.

10-26-11 - E
19:00 - Leave site for the day



10-27-11, JE

07:30- Arrive @ Smurfit Stone office and get organized for the day.

08:00- Health+Safety Meeting
- Chemical Safety (Methane H2S)
- Biological Safety (Wasps, Spiders)
- Weather Safety (Sun screen, Hydration)
- Driving Safety

08:15 - Weather: 40°F Overcast cloudy skies, 20% chance of rain.

10:23 - Collected groundwater sample SSGW18.
- Dark brown color/sulfur smell.

14:05 - SSGW04 collected a sample.
- Methane vapors visible/strong color to water
- Alex headed to town for inertia pump setup.
- Too deep for peristaltic, purged well with peristaltic

17:25 Collected groundwater sample SSGW05.
- Dark black purge water.

19:30 Demob from site for the day. Jeremiah & Vic

10-27-11

10.28.11, JE

07:30 - Arrive @ Smurfit Stone office and got organized.

08:00 Health and Safety meeting
- Chemical safety (H2S, Methane)
- Biological Safety
- Geoprobe Safety (Pinch points)
- Weather Safety (Hydration sunscreen)
- Slips, trips, falls
- Driving Safety

08:15 - Overcast, 30°F approximately cloudy

09:10 Collected groundwater sample ~~09:30~~ ~~09:10~~ SSGW03.

11:37 - Collected groundwater sample SSGW07.

14:10 - Collected groundwater sample SSGW10.

17:20 - Collected groundwater sample SSGW11.

18:50 - Collected groundwater sample SSGW08.

* All samples collected for the day had water quality parameters collected during each wells purge.

10.28.11, F

*All sample collected today had GPS positions collected + Photos taken. All this information can be found in the "monitoring well Sampling Data" form for each well sampled.

19:30- Demob. site for the day.

Jeremiah Erwin
10.28.11

10.29.11, F

08:30- Arrived onsite at Smurfit Stone office.

08:45. Organize and get equipment for the day.

08:50- H+S meeting

10:20- Collect groundwater Sample 556WL2.

- Dark grey colored water / Slight methane smell

*See Field form for 556WL2 For more info.

11:00- Go to town of Missoula to pick up supplies and rental car.

13:00- Arrive back @ Smurfit Stone site office.

- Pack up equipment and organize vehicles.

- Preserve all metals samples with HNAO3 and all Dioxin/Furan samples with Sodium Hydroxide.

- Ice down all samples

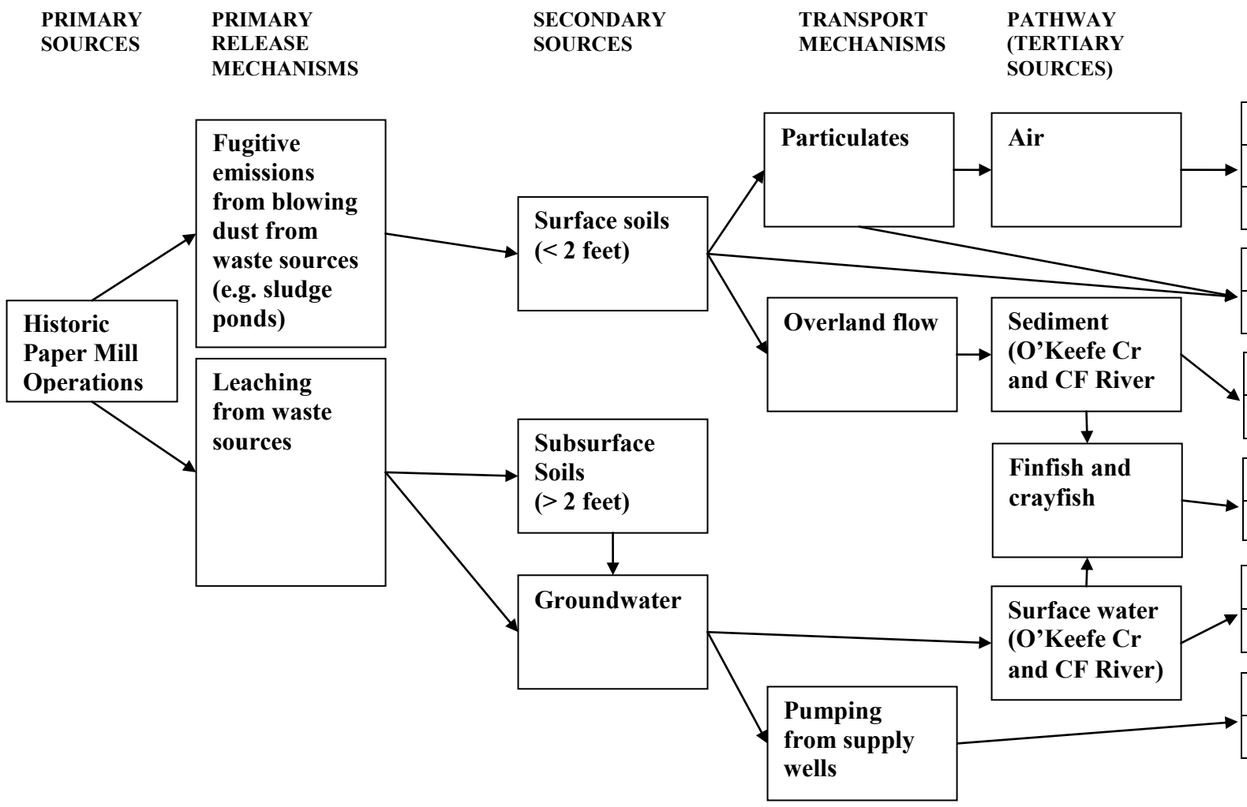
16:00- Demob. From site.

17:00- Fedex extra sampling equipment back to Denver D.C. warehouse. Jeremiah 10.29.11

APPENDIX C

Conceptual Site Model

APPENDIX C: Smurfit-Stone Mill Conceptual Site Model*



EXPOSURE ROUTE	HUMAN Industrial	HUMAN Resident/Rec	BIOTA Terrestrial	BIOTA Aquatic
Ingestion	●	●	●	-
Inhalation	●	●	●	-
Dermal	●	●	●	-
Ingestion	●	●	●	-
Dermal	●	●	●	-
Ingestion	-	-	-	■
Dermal	-	-	-	■
Ingestion	-	●	●	●
Dermal	-	-	-	-
Ingestion	-	-	●	■
Dermal	-	-	-	■
Ingestion	●	-	-	-
Dermal	●	-	-	-

■ Likely Complete Exposure Pathway

● Potentially Complete Exposure Pathway

- Likely Incomplete or Insignificant Exposure Pathway

*Conceptual Site Model as of September 2012. Model will be furthered refined as additional site data are

APPENDIX D

Surface Water Flow Measurements

EXHIBIT 4.15-1
Surface Water Flow Measurement

10/29/11
10:45

Marsh - McBirney

O'keefe Creek

URS OPERATING SERVICES, INC. — Surface Water Flow Measurement — Records Management Date

Project Number | Project Name: Smurfit - Stone Mill | Site

Flow Measurement Method: Marsh-McBirney Flow Mate 2000

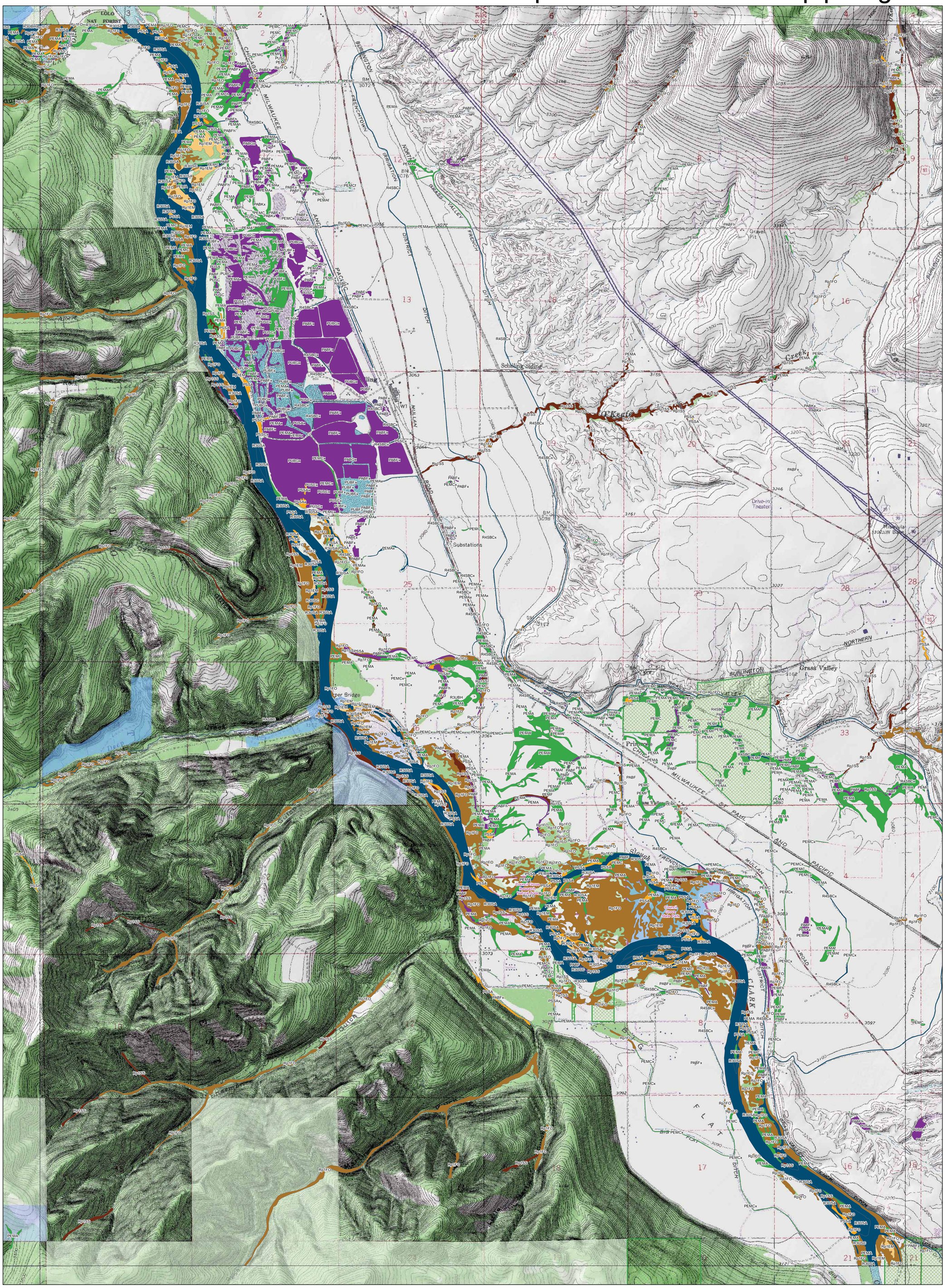
Distance from Initial Point (ft.)	Depth of Meter (ft.)	Width of Measurement Unit (ft.)	Depth of Water (ft.)	Number of Revolutions	Elapsed Time of Reading (secs)	Velocity ft/s	Area ft²	Discharge cfs
0.25			0.75		30sec avg.	0.5	0.75	0.0375
0.75			0.90			0.6	0.90	0.054
1.25			1.0			0.21	1.0	0.210
1.75			1.0			0.26	1.0	0.260
2.25			0.8			0.22	0.8	0.176
2.75			0.75			0.20	0.95	0.190
3.25			0.90			0.26	0.90	0.234
3.75			0.60			0.31	0.60	0.186
4.25			0.20			weeds	0.20	0
4.75							0	0
					TOTAL			1.3475 cfs

Recorded By: | Date: | Checked By: | Date:

APPENDIX E

MTNHP Provisional Wetland and Riparian Area Map - Primrose 7.5’ Quadrangle

Provisional Wetland and Riparian Area Mapping



Wetland and Riparian Mapping

- Freshwater Emergent Wetland
- Freshwater Forested Wetland
- Freshwater Pond
- Freshwater Scrub-Shrub Wetland
- Lake
- Riparian Emergent
- Riparian Forested
- Riparian Scrub-Shrub
- River

Ownership

- Conservation Easements
- Special Designations
- US Bureau of Land Management
- US Bureau of Reclamation
- US Fish and Wildlife Service
- National Park Service
- US Forest Service
- USDA (Ag Research Stations)
- Army Corps of Engineers
- Other Department of Defense
- Undifferentiated State
- State Trust Lands
- Montana Fish, Wildlife & Parks
- State -- University, Institutions, MDT
- DNRC (Water Project Lands)
- Local Government
- US Bureau of Indian Affairs Trust Lands
- Tribal Lands
- Plum Creek Timber Company
- Private Land Trusts

0.5 0.25 0 0.5 Miles

1:15,380

1 0.5 0 1 Kilometers

Quad Code - 4611482

Quad Name - Primrose

MTNHP provisional wetland mapping has gone through two stages of internal review, but has not been field verified or approved by the U.S. Fish and Wildlife Service's (USFWS) National Wetland Inventory (NWI). Interested parties are encouraged to obtain the most current information possible from MTNHP, rather than using older products.

The provisional wetland mapping is not an exhaustive or comprehensive inventory of wetland and riparian areas within the mapping boundary. Field verification of the absence or presence of wetland and riparian areas will always be an important obligation of users of our data. Additionally, the NWI definition of a wetland is more inclusive than the definition of a jurisdictional wetland, and thus the wetland boundaries shown in our dataset cannot substitute for boundaries mapped in a wetland delineation.

Wetland and Riparian mapping is mapped to the FGDC and USFWS National Wetland Inventory standards using the 2005 NAIP imagery at a 1:12,000 scale. Thus, the data are intended for use in publications, at a scale of 1:12,000 or smaller. Due to the scale, the primary intended use is for regional and watershed data display and analysis, rather than specific project data analysis. The map products were neither designed nor intended to represent legal or regulatory products.

Data Sources: The stewardship data was created by the Montana Natural Heritage Program. All other data layers in this map were obtained from the Montana GIS Portal which is maintained by the Natural Resource Information System (NRIS).

MONTANA Natural Heritage Program

http://mtnhp.org

Jan 18, 2012

Appendix F

Laboratory Data and Validation Reports
(under separate cover)

REGION VIII
DATA VALIDATION REPORT
ORGANICS

Case/TDD No.	Site Name		Operable Unit
41926 / 1109-07	Smurfit Stone Mill		
RPM/OSC Name			
Robert Parker			
Contractor Laboratory	**Contract No.**	**SDG No.**	**Laboratory DPO/Region**
Spectrum Analytical, Inc.	EP-W-11-033	H30T6	

Review Assigned Date: February 9, 2012 Data Validator: Amy Ballow
Review Completion Date: February 22, 2012 Report Reviewer: Bill Fear

Sample ID	Matrix	Analysis
H30Q5	Soil	CLP - Volatile, Semivolatile, and Aroclor Analyses by SOM01.2
H30Q7		
H30R2		
H30R3		
H30R4		
H30R6		
H30R7		
H30R8		
H30S0		
H30S1		
H30S2		
H30S3		
H30S6		
H30T6		

Sample ID	Matrix	Analysis
H30T7	Soil	CLP - Volatile, Semivolatile, and Aroclor Analyses by SOM01.2
H30T8		

DATA QUALITY STATEMENT

( ) Data are ACCEPTABLE according to EPA Functional Guidelines with no qualifiers (flags) added by the reviewer.
( ) Data are UNACCEPTABLE according to EPA Functional Guidelines.
(X) Data are acceptable with QUALIFICATIONS noted in review.

PO Attention Required? Yes _____ No ___X__ If yes, list the items that require attention:

ORGANIC DATA VALIDATION REPORT

REVIEW NARRATIVE SUMMARY

This data package was reviewed according to the EPA document "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," June 2008.

Raw data were reviewed for completeness and transcription accuracy onto the summary forms. Approximately 10-20% of the results reported in each of the samples, calibrations, and QC analyses were recalculated and verified. If problems were identified during the recalculation of results, a more thorough calculation check was performed.

The data package, SDG No. H30T6, consisted of 16 soil samples for CLP low/medium volatile organic analyses, CLP semivolatile organic, and Aroclor organic analyses by SOM01.2.

The following tables list data qualifiers added to the data. (Please see Data Qualifier Definitions, attached to the end of this report.)

Sample Number	Volatile Compound	Qualifier	Reason For Qualification	Review Section
All samples	1,4-Dioxane	R	Initial and continuing calibration RRFs less than 0.005	4
H30R2	1,1-Dichloroethane Chloroform Bromochloromethane Dibromochloromethane Bromoform	J/UJ	DMC percent recovery below criteria, but above 10%	5
	1,1,2,2-Tetrachloroethane 1,2-Dibromo-3-chloropropane	R	DMC percent recovery below 10%	
H30R4, H30S2, H30S6	All volatile compounds	J/UJ	Percent moisture ≥ 70%	9

Sample Number	Semivolatile Compound	Qualifier	Reason For Qualification	Review Section
H30T6, H30T7	Pentachlorophenol	UJ	Initial calibration %RSD > 20%	4
H30Q5, H30Q7, H30R3, H30R7, H30S0, H30S2, H30S6, H30T6, H30T7, H30T8			Continuing calibration %Ds > 25%	
H30Q5, H30Q7, H30R3, H30R7, H30S0, H30S2, H30S6, H30T8	Phenol Bis(2-chloroethyl)ether	J/UJ		

Sample Number	Semivolatile Compound	Qualifier	Reason For Qualification	Review Section
H30R2	Benzaldehyde Phenol	R	DMC percent recoveries below the QC limits and less than 10%	5
H30R8	Acetophenone 2,4-Dinitrotoluene 2,6-Dinitrotoluene Hexchloroethane Nitrobenzene n-Nitrosodiphenylamine n-Nitroso-di-n-propylamine			
H30Q5	4-Chloroaniline Hexachlorocyclopentadiene 3,3'-Dichlorobenzidine			
H30T6	Caprolactam 1,1'-Biphenyl Dimethylphthalate Diethylphthalate Di-n-butylphthalate Butylbenzylphthalate Bis(2-ethylhexyl)phthalate Di-n-octylphthalate	J/UJ	DMC percent recoveries below criteria, but above 10%	
H30T6, H30T7	Dibenzofuran Fluorene 4-Chlorophenyl-phenylether 4-Bromophenyl-phenylether Carbazole			
H30Q5, H30R2, H30R4, H30R6, H30R8, H30S1, H30S6, H30T6, H30T7, H30T8	Fluoranthene Pyrene Benzo(a)anthracene Chrysene			
H30R2, H30R4, H30R6, H30S0, H30S3, H30S6, H30T6, H30T7, H30T8	Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene Indeno(1,2,3-cd)pyrene Dibenzo(a,h)anthracene Benzo(g,h,i)perylene			
H30R2, H30S0, H30S3, H30T8	Di-n-butylphthalate	U	Blank contamination	8
H30R4, H30R4DL, H30S2, H30S6	All semivolatile compounds	J/UJ	Percent moisture ≥ 70%	9

Sample Number	Aroclor Compound	Qualifier	Reason For Qualification	Review Section
H30T6	All target Aroclors	UJ	Surrogate percent recoveries below QC limits	4
H30R3, H30R6, H30R7, H30R8, H30S0, H30S1, H30S3, H30S6, H30T8	All compounds flagged "P"	J	%Ds between columns greater than 25%	10
H30R4, H30S2, H30S6	All target Aroclors	J/UJ	Percent moisture ≥ 70%	

1. DELIVERABLES

All deliverables were present as specified in the subcontract.

VOA: Yes X No____

Comments: None.

2. HOLDING TIMES AND PRESERVATION CRITERIA

All holding times and preservation criteria were met.

VOA: Yes___ No X

Comments: The soil samples were analyzed within 14 days from sample collection. The laboratory received volatile (VOA) samples in unpreserved jars. In accordance with previous direction from Region 8, the laboratory noted this issue and proceeded with the same procedures as described for field core/storage containers. Therefore, no qualification was taken as the samples were analyzed within 14 days of the sample collection.

According to the case narrative and chain-of-custody records (COCs), the sample coolers were received at the laboratory between 6.5 °C and 9.0 °C, which is above the temperature criteria of 4 ± 2 °C. As per the Region instructions, if the samples were received below 10 °C, the laboratory noted the issue and proceeded with the analyses. Therefore, no action was taken.

According to the case narrative, various samples were received with non-CLP IDs. CLP IDs were provided on the containers and the laboratory matched up the information between the COC station locations and the sample containers to identify the samples. As per Region 8, the laboratory utilized the CLP ID to identify the samples throughout the data package. Additionally, handwritten notes with the CLP IDs were written on the affected COCs.

Sample tags were not received with the samples. In accordance with previous direction from Region 8, the laboratory noted this issue and proceeded with the analyses.

No other shipping or receiving problems were noted. Chain-of-custody, summary forms, and raw data were evaluated.

3. BFB PERFORMANCE RESULTS

The bromofluorobenzene (BFB) performance results were within the specified control limits. All appropriate BFB results were included.

VOA: Yes X No____

Comments: BFB instrument performance checks were run for each 12 hours of analysis. Ion

abundance criteria were met and were verified from raw data.

4. INSTRUMENT CALIBRATIONS: INITIAL AND CONTINUING STANDARDS

Initial instrument calibrations were performed according to method requirements and met the project specified control limits.

VOA: Yes___ No_X_

Comments: Initial calibration standards containing both target compounds and the deuterated monitoring compounds (DMCs) were analyzed at the correct frequency. The average relative response factors (RRFs) for the compounds identified by the Functional Guidelines as poor responders were greater than or equal to 0.01 (0.005 for 1,4-dioxane) with the exception noted below. The RRFs for all other target compounds were greater than or equal to 0.05. The percent relative standard deviations (%RSDs) of the RRFs were less than or equal to 50% for 1,4-dioxane, 40% for the poor responders and less than or equal to 20% for all other analytes. Summary forms and raw data were evaluated.

The following table lists the RRF that was less than 0.005 for 1,4-dioxane and qualifiers added to the data:

Compound	%RSD	RRFs	Associated Samples	Qualifiers
1,4-Dioxane	--	0.003	All samples	R

Continuing instrument calibrations were performed according to method requirements and met project specified control limits.

VOA: Yes___ No_X_

Comments: Continuing calibration standards containing both target compounds and the DMCs were analyzed at the beginning and end of each 12-hour analysis period. The RRFs for the compounds identified by the Functional Guidelines as poor responders were greater than or equal to 0.01 (0.005 for 1,4-dioxane) with the exceptions listed below. The RRFs for all other target compounds were greater than or equal to 0.05. The opening standard percent differences (%Ds) of the RRFs were less than or equal to 50% for 1,4-dioxane, 40% for the poor responders and less than or equal to 25% for all other analytes. All %Ds for the closing standards were less than 50% and all RRFs were greater than 0.01 (0.005 for 1,4-dioxane) with the exception listed below. Summary forms and raw data were evaluated.

The following table lists the RRFs that were less than 0.005 for 1,4-dioxane and the qualifiers added to the data:

Compound	%D	RRFs	Associated Samples	Qualifiers
1,4-Dioxane	--	0.002 0.003 0.002	All samples	R

5. DEUTERATED MONITORING COMPOUNDS

Deuterated monitoring compound (DMC) recovery analysis was performed according to method requirements and results met specified control limits.

VOA: Yes___ No_X_

Comments: DMCs were added to all samples and blanks. Summary forms and raw data were evaluated.

The following table lists the samples with DMC percent recoveries (%Rs) outside control limits and the qualifiers added to the data:

Sample Number	DMC	%R	QC Limits	Compounds	Qualifier
H30R2	Chloroform-d	39%	72-123%	1,1-Dichloroethane Chloroform Bromochloromethane Dibromochloromethane Bromoform	J/UJ
H30S0 H30R4 H30S2 H30S6 H30T8	Benzene-d6	129% 131% 121% 126% 131%	80-121%	Benzene	* None
H30R4 H30S6 H30T8	1,2-Dichloropropane-d6	125% 125% 125%	74-124%	Cyclohexane Methylcyclohexane 1,2-Dichloropropane Bromodichloromethane	
H30R2	1,1,2,2-Tetrachloroethane-d2	0%	56-161%	1,1,2,2-Tetrachloroethane 1,2-Dibromo-3-chloropropane	R

* No action was required for the compounds listed above because the affected compounds were not detected in these analyses.

6. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Matrix Spike/Matrix Spike Duplicate (MS/MSD) analyses were performed according to method requirements and results met recommended recovery and precision limits.

VOA: Yes X No____

Comments: MS/MSD analyses were performed on sample H30S0. The percent recoveries and relative percent differences (RPDs) were within QC limits. Summary forms and raw data were evaluated.

7. INTERNAL STANDARD AREA

Internal standard area analysis was performed according to method requirements and results met specified control limits.

VOA: Yes X No____

Comments: Internal standard area counts did not vary by more than a factor of two from the associated 12-hour calibration standard. The internal standard retention times did not vary more than ± 30 seconds from the retention time of the associated 12-hour calibration standards. Summary forms and raw data were evaluated.

8. LABORATORY BLANK ANALYSIS RESULTS

The laboratory blank analysis was performed according to method requirements and results met specified limits.

VOA: Yes X No____

Comments: Method blank analyses were performed after the calibration standards and once for every 12-hour time period. A storage blank (VHBLKK5) was also analyzed. No target compounds were detected in method blanks or in the storage blank. Summary forms and raw data were evaluated.

9. SAMPLE RESULTS

The sample results were reviewed and all compound identifications were acceptable and met contract requirements.

VOA: Yes____ No X

Comments: Sample relative retention times (RRTs) were within ± 0.06 RRT units of the standard RRT. Ions present in the standard mass spectrum at a relative intensity greater than 10% were present in the sample spectrum. Relative intensities of ions agreed within ±20% between standard and sample spectra. All samples results and CRQL were correctly calculated.
The percent moisture of three samples exceeded 70%, which resulted in

qualification. The following table lists the samples with percent moistures greater than 70%, compounds affected, and the qualifiers added to the data:

Sample	Percent Moisture (%)	Compounds	Qualifiers
H30R4 H30S2 H30S6	79.6% 72.4% 74.3%	All volatile compounds	J/UJ

Tentatively identified compounds (TICs) were qualitatively assessed by a mass spectral library search.

10. Additional Comments or Problems/Resolutions Not Addressed Above

VOA: Yes___ No_X_

Comments: None.

1. DELIVERABLES

All deliverables were present as specified in the subcontract.

BNA: Yes X No____

Comments: None.

2. HOLDING TIMES AND PRESERVATION CRITERIA

All holding times and preservation criteria were met.

BNA: Yes X No____

Comments: The soil samples were extracted within 14 days of sample collection and all extracts were analyzed within 40 days from sample extraction.

According to the case narrative and chain-of-custody records (COCs), the sample coolers were received at the laboratory between 6.5 °C and 9.0 °C, which is above the temperature criteria of 4 ± 2 °C. As per the Region instructions, if the samples were received below 10 °C, the laboratory noted the issue and proceeded with the analyses. Therefore, no action was taken.

According to the case narrative, various samples were received with non-CLP IDs. CLP IDs were provided on the containers and the laboratory matched up the information between the COC station locations and the sample containers to identify the samples. As per Region 8, the laboratory utilized the CLP ID to identify the samples throughout the data package. Additionally, handwritten notes with the CLP IDs were written on the affected COCs.

Sample tags were not received with the samples. In accordance with previous direction from Region 8, the laboratory noted this issue and proceeded with the analyses.

No other shipping or receiving problems were noted. Chain-of-custody, summary forms, and raw data were evaluated.

3. DFTPP PERFORMANCE RESULTS

The decafluorotriphenylphosphine (DFTPP) performance results were within the specified control limits. All appropriate DFTPP results were included.

BNA: Yes X No____

Comments: Instrument performance check solutions were analyzed at the beginning of each 12-hour period of sample analysis. Ion abundance criteria were met and were verified from raw data.

4. INSTRUMENT CALIBRATIONS: INITIAL AND CONTINUING STANDARDS

Initial instrument calibrations were performed according to method requirements and met the specified control limits listed in the Functional Guidelines.

BNA: Yes___ No_X_

Comments: Initial calibration standards containing both target compounds and the deuterated monitoring compounds (DMCs) were analyzed at the correct frequency. The average relative response factors (RRFs) for the compounds identified by the Functional Guidelines as poor responders were greater than or equal to 0.01 and the RRFs for all other target compounds were greater than or equal to 0.05. The percent relative standard deviations (%RSDs) of the RRFs were less than or equal to 40% for the poor responders and less than or equal to 20% for all other analytes with the exception below. Summary forms and raw data were evaluated.

The following table lists the %RSD that was greater than 20% and qualifiers added to the data:

Compound	RRFs	%RSD	Associated Samples	Qualifiers
Pentachlorophenol	--	20.8%	H30T6, H30T7	UJ

Continuing instrument calibrations were performed according to method requirements and met specified control limits listed in the Functional Guidelines.

BNA: Yes___ No_X_

Comments: Continuing calibration standards containing both target compounds and the DMCs were analyzed at the beginning and end of each 12-hour analysis period. The RRFs for the compounds identified by the Functional Guidelines as poor responders were greater than or equal to 0.01 and the RRFs for all other target compounds were greater than or equal to 0.05. The opening standard percent differences (%Ds) of the RRFs were less than or equal to 40% for the poor responders and less than or equal to 25% for all other analytes with the exceptions below. All %Ds for the closing standards were less than 50%. Summary forms and raw data were evaluated.

The following table lists the %Ds in the opening standards that exceeded 25% and the qualifiers added to the data:

Compound	%D	Associated Samples	Qualifiers
Pentachlorophenol	29.8% 31.2% 27.5%	H30T6, H30T7, H30Q5, H30Q7, H30R3, H30R7, H30S0, H30S2, H30S6, H30T8	UJ
Phenol Bis(2-chloroethyl)ether	31.2% 35.9%	H30Q5, H30Q7, H30R3, H30R7, H30S0, H30S2, H30S6, H30T8	J/UJ

5. DEUTERATED MONITORING COMPOUNDS

Deuterated monitoring compound (DMC) recovery analysis was performed according to method requirements and results met specified control limits.

BNA: Yes___ No_X_

Comments: DMCs were added to all samples and blanks. Summary forms and raw data were evaluated.

The following table lists the samples with DMC percent recoveries (%Rs) outside control limits and the qualifiers added to the data.

Sample Number	DMC	%R	QC Limits	Compounds	Qualifiers
H30R2	Phenol-d5	2%	17-103%	Benzaldehyde Phenol	R
H30R8	Nitrobenzene –d5	3%	16-103%	Acetophenone 2,4-Dinitrotoluene 2,6-Dinitrotoluene Hexchloroethane Nitrobenzene n-Nitrosodiphenylamine n-Nitroso-di-n-propylamine	
H30Q5	4-Chloroaniline-d4	<1%	1-145	4-Chloroaniline Hexachlorocyclopentadiene 3,3'-Dichlorobenzidine	
H30T6	Dimethylphthalate-d6	42%	43-111	Caprolactam 1,1'-Biphenyl Dimethylphthalate Diethylphthalate Di-n-butylphthalate Butylbenzylphthalate Bis(2-ethylhexyl)phthalate Di-n-octylphthalate	J/UJ
H30S6 H30S2	4-Nitrophenol-d4	321% 428%	16-166%	2-Nitroaniline 3-Nitroaniline 4-Nitroaniline 4-Nitrophenol 2,4-Dinitrophenol	* None
H30T6 H30T7	Fluorene-d10	34% 37%	40-108	Dibenzofuran Fluorene 4-Chlorophenyl-phenylether 4-Bromophenyl-phenylether Carbazole	UJ

Sample Number	DMC	%R	QC Limits	Compounds	Qualifiers
H30T6 H30T7 H30R2 H30R4 H30R6 H30R8 H30S1 H30Q5 H30S6 H30T8	Pyrene-d10	42% 45% 43% 50% 50% 47% 48% 47% 47% 38%	51-120	Fluoranthene Pyrene Benzo(a)anthracene Chrysene	J/UJ
H30T6 H30T7 H30R2 H30R4 H30R6 H30S3 H30S0 H30S6 H30T8	Benzo(a)pyrene-d12	36% 40% 26% 35% 40% 39% 36% 40% 28%	43-111	Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene Indeno(1,2,3-cd)pyrene Dibenzo(a,h)anthracene Benzo(g,h,i)perylene	J/UJ

[Note: DMC recoveries less than the QC limit and less than 10% are considered to be severely low and non-detected results are qualified as rejected (R).]

* No action was required for the compounds listed above because the affected compounds were not detected in these analyses.

The recoveries of benzo(a)pyrene-d12 in the diluted analyses of samples H30R4DL and H30S3DL; and for dimethylphthalate-d6 in the diluted analysis of H30S3DL were considered diluted below the linear calibration range and no action was required.

Additionally, DMC recoveries were outside criteria for the MS/MSD analyses of sample H30S0. No action is taken on QC samples (i.e., blanks and MS/MSD).

6. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Matrix Spike/Matrix Spike Duplicate (MS/MSD) analyses were performed according to method requirements and results met recommended recovery and precision limits.

BNA: Yes___ No_X_

Comments: MS/MSD analyses were performed on sample H30S0. Summary forms and raw data were evaluated.

The following table lists the results for the MS/MSD analyses that were outside criteria; however, no action is taken based solely on MS/MSD results:

Sample	Compound	Percent Recovery		RPD	Control Limits		Qualifiers
		MS	MSD		% R	RPD	
H30S0	Phenol	--	--	43	--	35	None
	4-Chloro-3-methylphenol	--	--	36	--	33	
	Acenaphthene	--	--	28	--	19	
	Pentachlorophenol	--	--	73	--	47	
	Pyrene	--	25	43	35-142	36	

7. INTERNAL STANDARD AREA

Internal standard area analysis was performed according to method requirements and results met specified control limits.

BNA: Yes___ No_X_

Comments: Internal standard area counts did not vary by more than a factor of two from the associated 12-hour calibration standard, with the exceptions noted below. The internal standard retention times did not vary more than ± 30 seconds from the retention time of the associated 12-hour calibration standards. Summary forms and raw data were evaluated.

The following table lists internal standards whose areas were outside criteria and the qualifiers added to the data:

Internal Standard	Low/High/ Extremely Low	Associated Samples	Compounds	Qualifiers
Napthalene-d8 Acenaphthene-d10	High	H30S3	All compounds quantitated using napthalene-d8 and acenaphthene-d10	* None

* Although two internal standard area counts were above criteria, results associated with these internal standards were non-detects and no action was taken for the elevated two internal standard area counts.

8. LABORATORY BLANK ANALYSIS RESULTS

The laboratory blank analysis was performed according to method requirements and results met specified control limits.

BNA: Yes_____ No_X_

Comments: Method blanks were reported per matrix, per concentration level, and for each extraction batch. Summary forms and raw data were evaluated.

Contamination was detected in the method blanks as summarized in the following table. Quantitation limits in the associated samples were raised in accordance with the rules set forth in the "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," June 2008.

Blank Target Compounds

Blank ID	Contaminant	Concentration Found in Blank (ug/Kg)	Associated Samples	Concentration Found in Sample (ug/Kg)	Qualifier/ Adjustment
SBLK4V	Di-n-butylphthalate	60	H30R2 H30S0 H30S3 H30T8	86 260 200 210	240 U 300 U 250 U 290 U

9. SAMPLE RESULTS

The sample results were reviewed and all compound identifications were acceptable and met contract requirements.

BNA: Yes___ No_X_

Comments: Sample relative retention times (RRTs) were within ± 0.06 RRT units of the

standard RRT. Ions present in the standard mass spectrum at a relative intensity greater than 10% were present in the sample spectrum. Relative intensities of ions agreed within ± 20% between standard and sample spectra. All samples results and CRQL were correctly calculated.

The percent moisture of three samples exceeded 70%, which resulted in qualification. The following table lists the samples with percent moistures greater than 70%, compounds affected, and the qualifiers added to the data:

Sample	Percent Moisture (%)	Compounds	Qualifiers
H30R4/H30R4DL H30S2 H30S6	79.6% 72.4% 74.3%	All semivolatile compounds	J/UJ

Samples H30R4 and H30S3 were re-analyzed at 5X dilutions for the BNA analyses, as one analyte in each of the original undiluted analyses was flagged "E" by the laboratory as exceeding the linear range. Only the results for 4-methylphenol in sample H30R4 and for bis(2-ethylhexyl0phthalate in sample H30S3 were reported from the 5X dilutions. All other target compounds were reported from the original undiluted analyses.

Tentatively identified compounds (TICs) were qualitatively assessed by a mass spectral library search.

10. Additional Comments or Problems/Resolutions Not Addressed Above

BNA: Yes___ No_X_

Comments: None.

1. DELIVERABLES

All deliverables were present as specified in the subcontract.

AROCLOR: Yes X No____

Comments: None.

2. HOLDING TIMES AND PRESERVATION CRITERIA

All holding times and preservation criteria were met.

AROCLOR: Yes X No____

Comments: The soil samples were extracted within 14 days of sample collection and all extracts were analyzed within 40 days from sample extraction.

According to the case narrative and chain-of-custody records (COCs), the sample coolers were received at the laboratory between 6.5 °C and 9.0 °C, which is above the temperature criteria of 4 ± 2 °C. As per the Region instructions, if the samples were received below 10 °C, the laboratory noted the issue and proceeded with the analyses. Therefore, no action was taken.

According to the case narrative, various samples were received with non-CLP IDs. CLP IDs were provided on the containers and the laboratory matched up the information between the COC station locations and the sample containers to identify the samples. As per Region 8, the laboratory utilized the CLP ID to identify the samples throughout the data package. Additionally, handwritten notes with the CLP IDs were written on the affected COCs.

Sample tags were not received with the samples. In accordance with previous direction from Region 8, the laboratory noted this issue and proceeded with the analyses.

No other shipping or receiving problems were noted. Chain-of-custody, summary forms, and raw data were evaluated.

3. INSTRUMENT CALIBRATIONS: INITIAL AND CONTINUING STANDARDS

The multi-component target compound analyses were performed according to method requirements:

AROCLOR: Yes X No____

Comments: None.

Initial instrument calibrations were performed according to requirements and met the specified control limits listed in the functional guidelines.

AROCLOR: Yes X No____

Comments: Percent relative standard deviations (%RSDs) for the calibration peaks used to quantitate the Aroclors were less than or equal to 20%.

Continuing instrument calibrations were performed according to requirements and met specified control limits listed in the functional guidelines.

AROCLOR: Yes X No____

Comments: Continuing calibration standards were analyzed at the required frequency. The percent differences (%Ds) were less than or equal to 15% for the opening Aroclor standards and less than or equal to 50% for the closing Aroclor standards for all standards associated with the samples. Summary forms and raw data were evaluated.

4. SURROGATE COMPOUND RECOVERY

Surrogate compound recovery analysis was performed according to method requirements and results met specified control limits.

AROCLOR: Yes____ No X

Comments: Surrogate compounds were added to all samples and blanks. All surrogate percent recoveries (%Rs) were within QC limits, with the exceptions noted below. Summary forms and raw data were evaluated.

The following table lists the sample with surrogate %Rs outside control limits and the qualifiers added to the data:

Sample Number	Parameter	Surrogate (QC limits)	%R Col 1/ Col 2	Compounds	Qualifiers
H30T6	Aroclor	Tetrachloro-m-xylene (30-150%)	23 / 25	All target Aroclors	UJ

5. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Matrix Spike/Matrix Spike Duplicate (MS/MSD) analyses were performed according to method requirements and results met recommended recovery and precision limits.

AROCLOR: Yes X No____

Comments: Matrix Spike/Matrix Spike Duplicate (MS/MSD) analyses were performed on sample H30S0 for the Aroclor analyses. The percent recoveries and relative

percent differences (RPDs) for the Aroclor MS/MSD analyses were within QC limits.

6. LABORATORY CONTROL SAMPLE

Laboratory control sample (LCS) analyses were performed according to method requirements and results met recommended recovery limits.

AROCLOR: Yes X No____

Comments: All percent recoveries were within QC limits.

7. AROCLOR INSTRUMENT PERFORMANCE

The pesticide resolution check mixture analysis was performed according to method requirements and results met recommended recovery limits.

AROCLOR: Yes___ No_____ NA X

Comments: Resolution check mixtures are not required for the Aroclor analyses.

The pesticide performance evaluation mixture (PEM) analysis was performed according to method requirements and results met recommended recovery limits.

AROCLOR: Yes___ No_____ NA X

Comments: PEM are not required for the Aroclor analyses.

The breakdowns of 4,4'-DDT and Endrin were less than 20% and the combined breakdown was less than 30%.

AROCLOR: Yes___ No_____ NA X

Comments: Breakdown analyses are not required for the Aroclor analyses.

The decachlorobiphenyl (DCB) and tetrachloro-m-xylene (TCMX) retention time shifts were within the specified control limits.

AROCLOR: Yes X No____

Comments: All retention time shift criteria for this data package were met.

8. PESTICIDE CLEANUP CHECKS

The florisil cartridge lot check analysis was performed according to requirements and all spike compounds were within the specified quality control limits.

AROCLOR: Yes___ No___ NA__X__

Comments: None.

The gel permeation chromatography (GPC) check was performed according to requirements and all spike compounds were within the specified quality control limits.

AROCLOR: Yes___ No___ NA__X__

Comments: None.

9. LABORATORY BLANK ANALYSIS RESULTS

The laboratory blank analysis was performed according to method requirements and met specified control limits.

AROCLOR: Yes__X__ No____

Comments: Method blanks were reported per matrix, per concentration level, and for each extraction batch. Additionally, instrument blanks were analyzed as required. Contamination was not detected in the method blanks or instrument blanks for the Aroclor parameter. Summary forms and raw data were evaluated.

10. SAMPLE RESULTS

The sample results were reviewed and all compound identifications were acceptable and met method requirements.

AROCLOR: Yes___ No__X__

Comments: No problems with the identification of the sample results were found. All retention time criteria were met for the detected results.

Various detected results were flagged "P" by the laboratory in the Aroclor samples, indicating the %Ds between the results quantitated on each column exceeded 25%. Results were reported as a positive result based on the retention time windows even though the %Ds between columns exceeded 25%. The detected results flagged "P" by the laboratory in samples H30R3, H30R6, H30R7, H30R8, H30S0, H30S1, H30S3, H30S6, and H30T8 were qualified as estimated (J).

The percent moisture of three samples exceeded 70%, which resulted in qualification. The following table lists the samples with percent moistures greater than 70%, compounds affected, and the qualifiers added to the data:

Sample	Percent Moisture (%)	Compounds	Qualifiers
H30R4 H30S2 H30S6	79.6% 72.4% 74.3%	All Aroclors	J/UJ

11. Additional Comments or Problems/Resolutions Not Addressed Above

AROCLOR: Yes___ No__X__

Comments: None.

ORGANIC DATA QUALITY ASSURANCE REVIEW

Region VIII

DATA QUALIFIER DEFINITIONS

For the purpose of Data Validation, the following code letters and associated definitions are provided for use by the data validator to summarize the data quality.

GENERAL QUALIFIERS for use with both INORGANIC and ORGANIC DATA

R	-	Reported value is "rejected." Resampling or reanalysis may be necessary to verify the presence or absence of the compound.
J	-	The associated numerical value is an estimated quantity because the Quality Control criteria were not met.
U J	-	The reported quantitation limit is estimated because Quality Control criteria were not met. Element or compound was not detected.
N J	-	Estimated value of a tentatively identified compound. (Identified with a CAS number.) ORGANICS analysis only.
U	-	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Q5

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-04B

Sample wt/vol: 4.90 (g/mL) G Lab File ID: V5N2735.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/03/2011

% Moisture: not dec. 56 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
75-71-8	Dichlorodifluoromethane	11	U
74-87-3	Chloromethane	11	U
75-01-4	Vinyl chloride	11	U
74-83-9	Bromomethane	11	U
75-00-3	Chloroethane	11	U
75-69-4	Trichlorofluoromethane	11	U
75-35-4	1,1-Dichloroethene	11	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	11	U
67-64-1	Acetone	120	
75-15-0	Carbon disulfide	11	U
79-20-9	Methyl acetate	11	U
75-09-2	Methylene chloride	11	U
156-60-5	trans-1,2-Dichloroethene	11	U
1634-04-4	Methyl tert-butyl ether	11	U
75-34-3	1,1-Dichloroethane	11	U
156-59-2	cis-1,2-Dichloroethene	11	U
78-93-3	2-Butanone	23	U
74-97-5	Bromochloromethane	11	U
67-66-3	Chloroform	11	U
71-55-6	1,1,1-Trichloroethane	11	U
110-82-7	Cyclohexane	11	U
56-23-5	Carbon tetrachloride	11	U
71-43-2	Benzene	11	U
107-06-2	1,2-Dichloroethane	11	U
123-91-1	1,4-Dioxane	230	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Q5

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-04B

Sample wt/vol: 4.90 (g/mL) G Lab File ID: V5N2735.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/03/2011

% Moisture: not dec. 56 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
79-01-6	Trichloroethene	11	U
108-87-2	Methylcyclohexane	11	U
78-87-5	1,2-Dichloropropane	11	U
75-27-4	Bromodichloromethane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
108-10-1	4-Methyl-2-pentanone	23	U
108-88-3	Toluene	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
79-00-5	1,1,2-Trichloroethane	11	U
127-18-4	Tetrachloroethene	11	U
591-78-6	2-Hexanone	23	U
124-48-1	Dibromochloromethane	11	U
106-93-4	1,2-Dibromoethane	11	U
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
179601-23-1	m,p-Xylene	11	U
95-47-6	o-Xylene	11	U
100-42-5	Styrene	11	U
75-25-2	Bromoform	11	U
98-82-8	Isopropylbenzene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
541-73-1	1,3-Dichlorobenzene	11	U
106-46-7	1,4-Dichlorobenzene	11	U
95-50-1	1,2-Dichlorobenzene	11	U
96-12-8	1,2-Dibromo-3-chloropropane	11	U
120-82-1	1,2,4-Trichlorobenzene	11	U
87-61-6	1,2,3-Trichlorobenzene	11	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30Q5

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-04B

Sample wt/vol: 4.90 (g/mL) G Lab File ID: V5N2735.D

Level: (TRACE or LOW/MED) LOW Date Received: 11/03/2011

% Moisture: not dec. 56 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	7785-70-8	1R-.alpha.-Pinene	10.570	23	NJ
02	500-00-5	Cyclohexene, 4-methyl-1-(1-m	11.301	22	NJ
03	5256-65-5	Cyclohexene, 3-methyl-6-(1-m	11.383	240	NJ
04	527-84-4	Benzene, 1-methyl-2-(1-methy	12.126	1500	NJ
	E96679€ [1]	Total Alkanes	N/A		

[1] EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Q7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-05B

Sample wt/vol: 5.10 (g/mL) G Lab File ID: V5N2736.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/03/2011

% Moisture: not dec. 68 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
75-71-8	Dichlorodifluoromethane	15	U
74-87-3	Chloromethane	15	U
75-01-4	Vinyl chloride	15	U
74-83-9	Bromomethane	15	U
75-00-3	Chloroethane	15	U
75-69-4	Trichlorofluoromethane	15	U
75-35-4	1,1-Dichloroethene	15	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	15	U
67-64-1	Acetone	62	
75-15-0	Carbon disulfide	16	
79-20-9	Methyl acetate	15	U
75-09-2	Methylene chloride	15	U
156-60-5	trans-1,2-Dichloroethene	15	U
1634-04-4	Methyl tert-butyl ether	15	U
75-34-3	1,1-Dichloroethane	15	U
156-59-2	cis-1,2-Dichloroethene	15	U
78-93-3	2-Butanone	30	U
74-97-5	Bromochloromethane	15	U
67-66-3	Chloroform	15	U
71-55-6	1,1,1-Trichloroethane	15	U
110-82-7	Cyclohexane	15	U
56-23-5	Carbon tetrachloride	15	U
71-43-2	Benzene	15	U
107-06-2	1,2-Dichloroethane	15	U
123-91-1	1,4-Dioxane	300	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Q7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-05B

Sample wt/vol: 5.10 (g/mL) G Lab File ID: V5N2736.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/03/2011

% Moisture: not dec. 68 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
79-01-6	Trichloroethene	15	U
108-87-2	Methylcyclohexane	15	U
78-87-5	1,2-Dichloropropane	15	U
75-27-4	Bromodichloromethane	15	U
10061-01-5	cis-1,3-Dichloropropene	15	U
108-10-1	4-Methyl-2-pentanone	30	U
108-88-3	Toluene	15	U
10061-02-6	trans-1,3-Dichloropropene	15	U
79-00-5	1,1,2-Trichloroethane	15	U
127-18-4	Tetrachloroethene	15	U
591-78-6	2-Hexanone	30	U
124-48-1	Dibromochloromethane	15	U
106-93-4	1,2-Dibromoethane	15	U
108-90-7	Chlorobenzene	15	U
100-41-4	Ethylbenzene	15	U
179601-23-1	m,p-Xylene	15	U
95-47-6	o-Xylene	15	U
100-42-5	Styrene	15	U
75-25-2	Bromoform	15	U
98-82-8	Isopropylbenzene	15	U
79-34-5	1,1,2,2-Tetrachloroethane	15	U
541-73-1	1,3-Dichlorobenzene	15	U
106-46-7	1,4-Dichlorobenzene	15	U
95-50-1	1,2-Dichlorobenzene	15	U
96-12-8	1,2-Dibromo-3-chloropropane	15	U
120-82-1	1,2,4-Trichlorobenzene	15	U
87-61-6	1,2,3-Trichlorobenzene	15	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30Q7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-05B

Sample wt/vol: 5.10 (g/mL) G Lab File ID: V5N2736.D

Level: (TRACE or LOW/MED) LOW Date Received: 11/03/2011

% Moisture: not dec. 68 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	7785-70-8	1R-.alpha.-Pinene	10.570	56	NJ
02	1195-31-9	Cyclohexene, 1-methyl-4-(1-m	11.302	19	NJ
03	5256-65-5	Cyclohexene, 3-methyl-6-(1-m	11.383	160	NJ
04	13466-78-9	3-Carene	11.778	71	NJ
05		Unknown-01	12.068	50	J
06	527-84-4	Benzene, 1-methyl-2-(1-methy	12.126	1300	NJ
07	21368-68-3	Bicyclo[2.2.1]heptan-2-one,	14.507	23	NJ
	E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30R2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-06B

Sample wt/vol: 5.20 (g/mL) G Lab File ID: V5N2737.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/03/2011

% Moisture: not dec. 31 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
75-71-8	Dichlorodifluoromethane	7.0	U
74-87-3	Chloromethane	7.0	U
75-01-4	Vinyl chloride	7.0	U
74-83-9	Bromomethane	7.0	U
75-00-3	Chloroethane	7.0	U
75-69-4	Trichlorofluoromethane	7.0	U
75-35-4	1,1-Dichloroethene	7.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	7.0	U
67-64-1	Acetone	14	U
75-15-0	Carbon disulfide	7.0	U
79-20-9	Methyl acetate	7.0	U
75-09-2	Methylene chloride	7.0	U
156-60-5	trans-1,2-Dichloroethene	7.0	U
1634-04-4	Methyl tert-butyl ether	7.0	U
75-34-3	1,1-Dichloroethane	7.0	U
156-59-2	cis-1,2-Dichloroethene	7.0	U
78-93-3	2-Butanone	14	U
74-97-5	Bromochloromethane	7.0	U
67-66-3	Chloroform	34	
71-55-6	1,1,1-Trichloroethane	7.0	U
110-82-7	Cyclohexane	7.0	U
56-23-5	Carbon tetrachloride	7.0	U
71-43-2	Benzene	7.0	U
107-06-2	1,2-Dichloroethane	7.0	U
123-91-1	1,4-Dioxane	140	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30R2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-06B

Sample wt/vol: 5.20 (g/mL) G Lab File ID: V5N2737.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/03/2011

% Moisture: not dec. 31 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
79-01-6	Trichloroethene	7.0	U
108-87-2	Methylcyclohexane	7.0	U
78-87-5	1,2-Dichloropropane	7.0	U
75-27-4	Bromodichloromethane	7.0	U
10061-01-5	cis-1,3-Dichloropropene	7.0	U
108-10-1	4-Methyl-2-pentanone	14	U
108-88-3	Toluene	7.0	U
10061-02-6	trans-1,3-Dichloropropene	7.0	U
79-00-5	1,1,2-Trichloroethane	7.0	U
127-18-4	Tetrachloroethene	7.0	U
591-78-6	2-Hexanone	14	U
124-48-1	Dibromochloromethane	7.0	U
106-93-4	1,2-Dibromoethane	7.0	U
108-90-7	Chlorobenzene	7.0	U
100-41-4	Ethylbenzene	7.0	U
179601-23-1	m,p-Xylene	7.0	U
95-47-6	o-Xylene	7.0	U
100-42-5	Styrene	7.0	U
75-25-2	Bromoform	7.0	U
98-82-8	Isopropylbenzene	7.0	U
79-34-5	1,1,2,2-Tetrachloroethane	7.0	U
541-73-1	1,3-Dichlorobenzene	7.0	U
106-46-7	1,4-Dichlorobenzene	7.0	U
95-50-1	1,2-Dichlorobenzene	7.0	U
96-12-8	1,2-Dibromo-3-chloropropane	7.0	U
120-82-1	1,2,4-Trichlorobenzene	7.0	U
87-61-6	1,2,3-Trichlorobenzene	7.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30R2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-06B

Sample wt/vol: 5.20 (g/mL) G Lab File ID: V5N2737.D

Level: (TRACE or LOW/MED) LOW Date Received: 11/03/2011

% Moisture: not dec. 31 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	6.570	44	J
	E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30R3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-07B

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V5N2738.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/03/2011

% Moisture: not dec. 63 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
75-71-8	Dichlorodifluoromethane	14	U
74-87-3	Chloromethane	14	U
75-01-4	Vinyl chloride	14	U
74-83-9	Bromomethane	14	U
75-00-3	Chloroethane	14	U
75-69-4	Trichlorofluoromethane	14	U
75-35-4	1,1-Dichloroethene	14	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	14	U
67-64-1	Acetone	120	
75-15-0	Carbon disulfide	17	
79-20-9	Methyl acetate	14	U
75-09-2	Methylene chloride	14	U
156-60-5	trans-1,2-Dichloroethene	14	U
1634-04-4	Methyl tert-butyl ether	14	U
75-34-3	1,1-Dichloroethane	14	U
156-59-2	cis-1,2-Dichloroethene	14	U
78-93-3	2-Butanone	27	U
74-97-5	Bromochloromethane	14	U
67-66-3	Chloroform	5.9	J
71-55-6	1,1,1-Trichloroethane	14	U
110-82-7	Cyclohexane	14	U
56-23-5	Carbon tetrachloride	14	U
71-43-2	Benzene	14	U
107-06-2	1,2-Dichloroethane	14	U
123-91-1	1,4-Dioxane	270	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30R3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-07B

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V5N2738.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/03/2011

% Moisture: not dec. 63 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
79-01-6	Trichloroethene	14	U
108-87-2	Methylcyclohexane	14	U
78-87-5	1,2-Dichloropropane	14	U
75-27-4	Bromodichloromethane	14	U
10061-01-5	cis-1,3-Dichloropropene	14	U
108-10-1	4-Methyl-2-pentanone	27	U
108-88-3	Toluene	14	U
10061-02-6	trans-1,3-Dichloropropene	14	U
79-00-5	1,1,2-Trichloroethane	14	U
127-18-4	Tetrachloroethene	14	U
591-78-6	2-Hexanone	27	U
124-48-1	Dibromochloromethane	14	U
106-93-4	1,2-Dibromoethane	14	U
108-90-7	Chlorobenzene	14	U
100-41-4	Ethylbenzene	14	U
179601-23-1	m,p-Xylene	14	U
95-47-6	o-Xylene	14	U
100-42-5	Styrene	14	U
75-25-2	Bromoform	14	U
98-82-8	Isopropylbenzene	36	
79-34-5	1,1,2,2-Tetrachloroethane	14	U
541-73-1	1,3-Dichlorobenzene	14	U
106-46-7	1,4-Dichlorobenzene	14	U
95-50-1	1,2-Dichlorobenzene	14	U
96-12-8	1,2-Dibromo-3-chloropropane	14	U
120-82-1	1,2,4-Trichlorobenzene	14	U
87-61-6	1,2,3-Trichlorobenzene	14	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30R3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-07B

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V5N2738.D

Level: (TRACE or LOW/MED) LOW Date Received: 11/03/2011

% Moisture: not dec. 63 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	79-92-5	Camphene	10.901	380	NJ
02	5256-65-5	Cyclohexene, 3-methyl-6-(1-m	11.296	18	NJ
03	5256-65-5	Cyclohexene, 3-methyl-6-(1-m	11.389	830	NJ
04	5256-65-5	Cyclohexene, 3-methyl-6-(1-m	11.633	20	NJ
05	13466-78-9	3-Carene	11.772	730	NJ
06	1195-31-9	Cyclohexene, 1-methyl-4-(1-m	11.935	50	NJ
07	5989-27-5	D-Limonene	12.062	300	NJ
08	535-77-3	Benzene, 1-methyl-3-(1-methy	12.132	1500	NJ
09	99-85-4	1,4-Cyclohexadiene, 1-methyl	12.480	20	NJ
10	586-62-9	Cyclohexene, 1-methyl-4-(1-m	12.922	61	NJ
11	475-20-7	1,4-Methanoazulene, decahydr	17.230	23	NJ
	E96679[1]	Total Alkanes	N/A	26	J

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30R4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-08B

Sample wt/vol: 4.90 (g/mL) G Lab File ID: V5N2739.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/03/2011

% Moisture: not dec. 80 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
75-71-8	Dichlorodifluoromethane	25	U
74-87-3	Chloromethane	25	U
75-01-4	Vinyl chloride	25	U
74-83-9	Bromomethane	25	U
75-00-3	Chloroethane	25	U
75-69-4	Trichlorofluoromethane	25	U
75-35-4	1,1-Dichloroethene	25	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	25	U
67-64-1	Acetone	220	
75-15-0	Carbon disulfide	13	J
79-20-9	Methyl acetate	25	U
75-09-2	Methylene chloride	25	U
156-60-5	trans-1,2-Dichloroethene	25	U
1634-04-4	Methyl tert-butyl ether	25	U
75-34-3	1,1-Dichloroethane	25	U
156-59-2	cis-1,2-Dichloroethene	25	U
78-93-3	2-Butanone	50	U
74-97-5	Bromochloromethane	25	U
67-66-3	Chloroform	25	U
71-55-6	1,1,1-Trichloroethane	25	U
110-82-7	Cyclohexane	25	U
56-23-5	Carbon tetrachloride	25	U
71-43-2	Benzene	25	U
107-06-2	1,2-Dichloroethane	25	U
123-91-1	1,4-Dioxane	500	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30R4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-08B

Sample wt/vol: 4.90 (g/mL) G Lab File ID: V5N2739.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/03/2011

% Moisture: not dec. 80 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
79-01-6	Trichloroethene	25	U
108-87-2	Methylcyclohexane	25	U
78-87-5	1,2-Dichloropropane	25	U
75-27-4	Bromodichloromethane	25	U
10061-01-5	cis-1,3-Dichloropropene	25	U
108-10-1	4-Methyl-2-pentanone	50	U
108-88-3	Toluene	25	U
10061-02-6	trans-1,3-Dichloropropene	25	U
79-00-5	1,1,2-Trichloroethane	25	U
127-18-4	Tetrachloroethene	25	U
591-78-6	2-Hexanone	50	U
124-48-1	Dibromochloromethane	25	U
106-93-4	1,2-Dibromoethane	25	U
108-90-7	Chlorobenzene	25	U
100-41-4	Ethylbenzene	25	U
179601-23-1	m,p-Xylene	25	U
95-47-6	o-Xylene	25	U
100-42-5	Styrene	25	U
75-25-2	Bromoform	25	U
98-82-8	Isopropylbenzene	25	U
79-34-5	1,1,2,2-Tetrachloroethane	25	U
541-73-1	1,3-Dichlorobenzene	25	U
106-46-7	1,4-Dichlorobenzene	25	U
95-50-1	1,2-Dichlorobenzene	25	U
96-12-8	1,2-Dibromo-3-chloropropane	25	U
120-82-1	1,2,4-Trichlorobenzene	25	U
87-61-6	1,2,3-Trichlorobenzene	25	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30R4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-08B

Sample wt/vol: 4.90 (g/mL) G Lab File ID: V5N2739.D

Level: (TRACE or LOW/MED) LOW Date Received: 11/03/2011

% Moisture: not dec. 80 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	7785-70-8	1R-.alpha.-Pinene	10.570	110	NJ
02	79-92-5	Camphene	10.907	250	NJ
03	5256-65-5	Cyclohexene, 3-methyl-6-(1-m	11.290	110	NJ
04	5256-65-5	Cyclohexene, 3-methyl-6-(1-m	11.383	810	NJ
05	498-15-7	Bicyclo[4.1.0]hept-3-ene, 3,	11.766	250	NJ
06	527-84-4	Benzene, 1-methyl-2-(1-methy	12.126	4800	NJ
07	4695-62-9	Bicyclo[2.2.1]heptan-2-one,	13.543	32	NJ
08	464-48-2	Bicyclo[2.2.1]heptan-2-one,	14.495	110	NJ
09	475-20-7	1,4-Methanoazulene, decahydr	17.225	56	NJ
	E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30R6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-09B

Sample wt/vol: 4.70 (g/mL) G Lab File ID: V5N2726A.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/03/2011

% Moisture: not dec. 67 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
75-71-8	Dichlorodifluoromethane	16	U
74-87-3	Chloromethane	16	U
75-01-4	Vinyl chloride	16	U
74-83-9	Bromomethane	16	U
75-00-3	Chloroethane	16	U
75-69-4	Trichlorofluoromethane	16	U
75-35-4	1,1-Dichloroethene	16	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	16	U
67-64-1	Acetone	32	U
75-15-0	Carbon disulfide	16	U
79-20-9	Methyl acetate	16	U
75-09-2	Methylene chloride	16	U
156-60-5	trans-1,2-Dichloroethene	16	U
1634-04-4	Methyl tert-butyl ether	16	U
75-34-3	1,1-Dichloroethane	16	U
156-59-2	cis-1,2-Dichloroethene	16	U
78-93-3	2-Butanone	32	U
74-97-5	Bromochloromethane	16	U
67-66-3	Chloroform	16	U
71-55-6	1,1,1-Trichloroethane	16	U
110-82-7	Cyclohexane	16	U
56-23-5	Carbon tetrachloride	16	U
71-43-2	Benzene	16	U
107-06-2	1,2-Dichloroethane	16	U
123-91-1	1,4-Dioxane	320	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30R6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-09B

Sample wt/vol: 4.70 (g/mL) G Lab File ID: V5N2726A.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/03/2011

% Moisture: not dec. 67 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
79-01-6	Trichloroethene	16	U
108-87-2	Methylcyclohexane	16	U
78-87-5	1,2-Dichloropropane	16	U
75-27-4	Bromodichloromethane	16	U
10061-01-5	cis-1,3-Dichloropropene	16	U
108-10-1	4-Methyl-2-pentanone	32	U
108-88-3	Toluene	16	U
10061-02-6	trans-1,3-Dichloropropene	16	U
79-00-5	1,1,2-Trichloroethane	16	U
127-18-4	Tetrachloroethene	16	U
591-78-6	2-Hexanone	32	U
124-48-1	Dibromochloromethane	16	U
106-93-4	1,2-Dibromoethane	16	U
108-90-7	Chlorobenzene	16	U
100-41-4	Ethylbenzene	16	U
179601-23-1	m,p-Xylene	16	U
95-47-6	o-Xylene	16	U
100-42-5	Styrene	16	U
75-25-2	Bromoform	16	U
98-82-8	Isopropylbenzene	16	U
79-34-5	1,1,2,2-Tetrachloroethane	16	U
541-73-1	1,3-Dichlorobenzene	16	U
106-46-7	1,4-Dichlorobenzene	16	U
95-50-1	1,2-Dichlorobenzene	16	U
96-12-8	1,2-Dibromo-3-chloropropane	16	U
120-82-1	1,2,4-Trichlorobenzene	16	U
87-61-6	1,2,3-Trichlorobenzene	16	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30R6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-09B

Sample wt/vol: 4.70 (g/mL) G Lab File ID: V5N2726A.D

Level: (TRACE or LOW/MED) LOW Date Received: 11/03/2011

% Moisture: not dec. 67 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG Purge Volume: 10.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30R7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-10B

Sample wt/vol: 4.90 (g/mL) G Lab File ID: V5N2741.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/03/2011

% Moisture: not dec. 24 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
75-71-8	Dichlorodifluoromethane	6.7	U
74-87-3	Chloromethane	6.7	U
75-01-4	Vinyl chloride	6.7	U
74-83-9	Bromomethane	6.7	U
75-00-3	Chloroethane	6.7	U
75-69-4	Trichlorofluoromethane	6.7	U
75-35-4	1,1-Dichloroethene	6.7	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	6.7	U
67-64-1	Acetone	110	
75-15-0	Carbon disulfide	8.9	
79-20-9	Methyl acetate	6.7	U
75-09-2	Methylene chloride	6.4	J
156-60-5	trans-1,2-Dichloroethene	6.7	U
1634-04-4	Methyl tert-butyl ether	6.7	U
75-34-3	1,1-Dichloroethane	6.7	U
156-59-2	cis-1,2-Dichloroethene	6.7	U
78-93-3	2-Butanone	30	
74-97-5	Bromochloromethane	6.7	U
67-66-3	Chloroform	6.1	J
71-55-6	1,1,1-Trichloroethane	6.7	U
110-82-7	Cyclohexane	6.7	U
56-23-5	Carbon tetrachloride	6.7	U
71-43-2	Benzene	6.7	U
107-06-2	1,2-Dichloroethane	6.7	U
123-91-1	1,4-Dioxane	130	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30R7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-10B

Sample wt/vol: 4.90 (g/mL) G Lab File ID: V5N2741.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/03/2011

% Moisture: not dec. 24 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
79-01-6	Trichloroethene	6.7	U
108-87-2	Methylcyclohexane	6.7	U
78-87-5	1,2-Dichloropropane	6.7	U
75-27-4	Bromodichloromethane	6.7	U
10061-01-5	cis-1,3-Dichloropropene	6.7	U
108-10-1	4-Methyl-2-pentanone	13	U
108-88-3	Toluene	6.7	U
10061-02-6	trans-1,3-Dichloropropene	6.7	U
79-00-5	1,1,2-Trichloroethane	6.7	U
127-18-4	Tetrachloroethene	6.7	U
591-78-6	2-Hexanone	13	U
124-48-1	Dibromochloromethane	6.7	U
106-93-4	1,2-Dibromoethane	6.7	U
108-90-7	Chlorobenzene	6.7	U
100-41-4	Ethylbenzene	6.7	U
179601-23-1	m,p-Xylene	6.7	U
95-47-6	o-Xylene	6.7	U
100-42-5	Styrene	6.7	U
75-25-2	Bromoform	6.7	U
98-82-8	Isopropylbenzene	6.7	U
79-34-5	1,1,2,2-Tetrachloroethane	6.7	U
541-73-1	1,3-Dichlorobenzene	6.7	U
106-46-7	1,4-Dichlorobenzene	6.7	U
95-50-1	1,2-Dichlorobenzene	6.7	U
96-12-8	1,2-Dibromo-3-chloropropane	6.7	U
120-82-1	1,2,4-Trichlorobenzene	6.7	U
87-61-6	1,2,3-Trichlorobenzene	6.7	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30R7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-10B

Sample wt/vol: 4.90 (g/mL) G Lab File ID: V5N2741.D

Level: (TRACE or LOW/MED) LOW Date Received: 11/03/2011

% Moisture: not dec. 24 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	3.460	12	J
02	7785-26-4	1S-.alpha.-Pinene	10.404	29	NJ
03	7785-70-8	1R-.alpha.-Pinene	10.567	130	NJ
04	79-92-5	Camphene	10.904	200	NJ
05	619-52-3	Cyclohexene, 4-methyl-1-(1-m	11.299	84	NJ
06	5256-65-5	Cyclohexene, 3-methyl-6-(1-m	11.392	800	NJ
07	586-62-9	Cyclohexene, 1-methyl-4-(1-m	11.624	16	NJ
08	13466-78-9	3-Carene	11.775	1100	NJ
09	1195-31-9	Cyclohexene, 1-methyl-4-(1-m	11.937	21	NJ
10	138-86-3	Limonene	12.065	120	NJ
11	527-84-4	Benzene, 1-methyl-2-(1-methy	12.135	2800	NJ
12	586-62-9	Cyclohexene, 1-methyl-4-(1-m	12.924	13	NJ
13	4695-62-9	Bicyclo[2.2.1]heptan-2-one,	13.528	22	NJ
14		Unknown-02	14.341	7.0	J
15	464-48-2	Bicyclo[2.2.1]heptan-2-one,	14.492	78	NJ
16	475-20-7	1,4-Methanoazulene, decahydr	17.233	18	NJ
	E96679€ [1]	Total Alkanes	N/A		

[1] EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30R8

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-11B

Sample wt/vol: 4.80 (g/mL) G Lab File ID: V5N2742.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/03/2011

% Moisture: not dec. 65 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
75-71-8	Dichlorodifluoromethane	15	U
74-87-3	Chloromethane	15	U
75-01-4	Vinyl chloride	15	U
74-83-9	Bromomethane	15	U
75-00-3	Chloroethane	15	U
75-69-4	Trichlorofluoromethane	15	U
75-35-4	1,1-Dichloroethene	15	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	15	U
67-64-1	Acetone	59	
75-15-0	Carbon disulfide	14	J
79-20-9	Methyl acetate	15	U
75-09-2	Methylene chloride	15	U
156-60-5	trans-1,2-Dichloroethene	15	U
1634-04-4	Methyl tert-butyl ether	15	U
75-34-3	1,1-Dichloroethane	15	U
156-59-2	cis-1,2-Dichloroethene	15	U
78-93-3	2-Butanone	30	U
74-97-5	Bromochloromethane	15	U
67-66-3	Chloroform	15	U
71-55-6	1,1,1-Trichloroethane	15	U
110-82-7	Cyclohexane	15	U
56-23-5	Carbon tetrachloride	15	U
71-43-2	Benzene	15	U
107-06-2	1,2-Dichloroethane	15	U
123-91-1	1,4-Dioxane	300	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30R8

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-11B

Sample wt/vol: 4.80 (g/mL) G Lab File ID: V5N2742.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/03/2011

% Moisture: not dec. 65 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
79-01-6	Trichloroethene	15	U
108-87-2	Methylcyclohexane	15	U
78-87-5	1,2-Dichloropropane	15	U
75-27-4	Bromodichloromethane	15	U
10061-01-5	cis-1,3-Dichloropropene	15	U
108-10-1	4-Methyl-2-pentanone	30	U
108-88-3	Toluene	15	U
10061-02-6	trans-1,3-Dichloropropene	15	U
79-00-5	1,1,2-Trichloroethane	15	U
127-18-4	Tetrachloroethene	15	U
591-78-6	2-Hexanone	30	U
124-48-1	Dibromochloromethane	15	U
106-93-4	1,2-Dibromoethane	15	U
108-90-7	Chlorobenzene	15	U
100-41-4	Ethylbenzene	15	U
179601-23-1	m,p-Xylene	15	U
95-47-6	o-Xylene	15	U
100-42-5	Styrene	15	U
75-25-2	Bromoform	15	U
98-82-8	Isopropylbenzene	15	U
79-34-5	1,1,2,2-Tetrachloroethane	15	U
541-73-1	1,3-Dichlorobenzene	15	U
106-46-7	1,4-Dichlorobenzene	15	U
95-50-1	1,2-Dichlorobenzene	15	U
96-12-8	1,2-Dibromo-3-chloropropane	15	U
120-82-1	1,2,4-Trichlorobenzene	15	U
87-61-6	1,2,3-Trichlorobenzene	15	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30R8

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-11B

Sample wt/vol: 4.80 (g/mL) G Lab File ID: V5N2742.D

Level: (TRACE or LOW/MED) LOW Date Received: 11/03/2011

% Moisture: not dec. 65 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	7785-70-8	1R-.alpha.-Pinene	10.564	45	NJ
02	79-92-5	Camphene	10.901	170	NJ
03		Unknown-01	11.238	19	J
04		Unknown-02	11.296	37	J
05	5256-65-5	Cyclohexene, 3-methyl-6-(1-m	11.389	860	NJ
06	498-15-7	Bicyclo[4.1.0]hept-3-ene, 3,	11.772	130	NJ
07	1195-31-9	Cyclohexene, 1-methyl-4-(1-m	11.935	28	NJ
08		Unknown-03	12.062	79	J
09	527-84-4	Benzene, 1-methyl-2-(1-methy	12.132	3700	NJ
10	1195-79-5	Bicyclo[2.2.1]heptan-2-one,	13.537	25	NJ
11	464-48-2	Bicyclo[2.2.1]heptan-2-one,	14.490	480	NJ
12	1137-12-8	1,2,4-Methenoazulene, decahy	16.835	16	NJ
13	475-20-7	1,4-Methanoazulene, decahydr	17.230	150	NJ
	E96679[1]	Total Alkanes	N/A	19	J

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30S0

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-12B

Sample wt/vol: 4.70 (g/mL) G Lab File ID: V5N2732.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/03/2011

% Moisture: not dec. 44 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
75-71-8	Dichlorodifluoromethane	9.5	U
74-87-3	Chloromethane	9.5	U
75-01-4	Vinyl chloride	9.5	U
74-83-9	Bromomethane	9.5	U
75-00-3	Chloroethane	9.5	U
75-69-4	Trichlorofluoromethane	9.5	U
75-35-4	1,1-Dichloroethene	9.5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	9.5	U
67-64-1	Acetone	19	U
75-15-0	Carbon disulfide	9.5	U
79-20-9	Methyl acetate	9.5	U
75-09-2	Methylene chloride	9.5	U
156-60-5	trans-1,2-Dichloroethene	9.5	U
1634-04-4	Methyl tert-butyl ether	9.5	U
75-34-3	1,1-Dichloroethane	9.5	U
156-59-2	cis-1,2-Dichloroethene	9.5	U
78-93-3	2-Butanone	19	U
74-97-5	Bromochloromethane	9.5	U
67-66-3	Chloroform	9.5	U
71-55-6	1,1,1-Trichloroethane	9.5	U
110-82-7	Cyclohexane	9.5	U
56-23-5	Carbon tetrachloride	9.5	U
71-43-2	Benzene	9.5	U
107-06-2	1,2-Dichloroethane	9.5	U
123-91-1	1,4-Dioxane	190	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30S0

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-12B

Sample wt/vol: 4.70 (g/mL) G Lab File ID: V5N2732.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/03/2011

% Moisture: not dec. 44 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
79-01-6	Trichloroethene	9.5	U
108-87-2	Methylcyclohexane	9.5	U
78-87-5	1,2-Dichloropropane	9.5	U
75-27-4	Bromodichloromethane	9.5	U
10061-01-5	cis-1,3-Dichloropropene	9.5	U
108-10-1	4-Methyl-2-pentanone	19	U
108-88-3	Toluene	9.5	U
10061-02-6	trans-1,3-Dichloropropene	9.5	U
79-00-5	1,1,2-Trichloroethane	9.5	U
127-18-4	Tetrachloroethene	9.5	U
591-78-6	2-Hexanone	19	U
124-48-1	Dibromochloromethane	9.5	U
106-93-4	1,2-Dibromoethane	9.5	U
108-90-7	Chlorobenzene	9.5	U
100-41-4	Ethylbenzene	9.5	U
179601-23-1	m,p-Xylene	9.5	U
95-47-6	o-Xylene	9.5	U
100-42-5	Styrene	9.5	U
75-25-2	Bromoform	9.5	U
98-82-8	Isopropylbenzene	9.5	U
79-34-5	1,1,2,2-Tetrachloroethane	9.5	U
541-73-1	1,3-Dichlorobenzene	9.5	U
106-46-7	1,4-Dichlorobenzene	9.5	U
95-50-1	1,2-Dichlorobenzene	9.5	U
96-12-8	1,2-Dibromo-3-chloropropane	9.5	U
120-82-1	1,2,4-Trichlorobenzene	9.5	U
87-61-6	1,2,3-Trichlorobenzene	9.5	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30S0

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-12B

Sample wt/vol: 4.70 (g/mL) G Lab File ID: V5N2732.D

Level: (TRACE or LOW/MED) LOW Date Received: 11/03/2011

% Moisture: not dec. 44 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	62960-77-4	4-Octene, 2,6-dimethyl-, [S-	9.963	62	NJ
02	7785-70-8	1R-.alpha.-Pinene	10.567	11	NJ
03	79-92-5	Camphene	10.904	93	NJ
04		Unknown-01	11.206	20	J
05	1124-27-2	Cyclohexane, 1-methyl-4-(1-m	11.299	100	NJ
06	5256-65-5	Cyclohexene, 3-methyl-6-(1-m	11.380	150	NJ
07	5256-65-5	Cyclohexene, 3-methyl-6-(1-m	11.635	54	NJ
08	1000150-36-1	4-Carene	11.775	20	NJ
09	1195-31-9	Cyclohexene, 1-methyl-4-(1-m	11.937	40	NJ
10		Unknown-02	12.065	69	J
11	527-84-4	Benzene, 1-methyl-2-(1-methy	12.135	4300	NJ
	E96679€ [1]	Total Alkanes	N/A	18	J

[1] EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30S1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-13B

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V5N2743.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/03/2011

% Moisture: not dec. 29 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
75-71-8	Dichlorodifluoromethane	7.0	U
74-87-3	Chloromethane	7.0	U
75-01-4	Vinyl chloride	7.0	U
74-83-9	Bromomethane	7.0	U
75-00-3	Chloroethane	7.0	U
75-69-4	Trichlorofluoromethane	7.0	U
75-35-4	1,1-Dichloroethene	7.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	7.0	U
67-64-1	Acetone	23	
75-15-0	Carbon disulfide	3.3	J
79-20-9	Methyl acetate	7.0	U
75-09-2	Methylene chloride	7.0	U
156-60-5	trans-1,2-Dichloroethene	7.0	U
1634-04-4	Methyl tert-butyl ether	7.0	U
75-34-3	1,1-Dichloroethane	7.0	U
156-59-2	cis-1,2-Dichloroethene	7.0	U
78-93-3	2-Butanone	14	U
74-97-5	Bromochloromethane	7.0	U
67-66-3	Chloroform	7.0	U
71-55-6	1,1,1-Trichloroethane	7.0	U
110-82-7	Cyclohexane	7.0	U
56-23-5	Carbon tetrachloride	7.0	U
71-43-2	Benzene	7.0	U
107-06-2	1,2-Dichloroethane	7.0	U
123-91-1	1,4-Dioxane	140	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30S1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-13B

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V5N2743.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/03/2011

% Moisture: not dec. 29 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
79-01-6	Trichloroethene	7.0	U
108-87-2	Methylcyclohexane	7.0	U
78-87-5	1,2-Dichloropropane	7.0	U
75-27-4	Bromodichloromethane	7.0	U
10061-01-5	cis-1,3-Dichloropropene	7.0	U
108-10-1	4-Methyl-2-pentanone	14	U
108-88-3	Toluene	7.0	U
10061-02-6	trans-1,3-Dichloropropene	7.0	U
79-00-5	1,1,2-Trichloroethane	7.0	U
127-18-4	Tetrachloroethene	7.0	U
591-78-6	2-Hexanone	14	U
124-48-1	Dibromochloromethane	7.0	U
106-93-4	1,2-Dibromoethane	7.0	U
108-90-7	Chlorobenzene	7.0	U
100-41-4	Ethylbenzene	7.0	U
179601-23-1	m,p-Xylene	7.0	U
95-47-6	o-Xylene	7.0	U
100-42-5	Styrene	7.0	U
75-25-2	Bromoform	7.0	U
98-82-8	Isopropylbenzene	7.0	U
79-34-5	1,1,2,2-Tetrachloroethane	7.0	U
541-73-1	1,3-Dichlorobenzene	7.0	U
106-46-7	1,4-Dichlorobenzene	7.0	U
95-50-1	1,2-Dichlorobenzene	7.0	U
96-12-8	1,2-Dibromo-3-chloropropane	7.0	U
120-82-1	1,2,4-Trichlorobenzene	7.0	U
87-61-6	1,2,3-Trichlorobenzene	7.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30S1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-13B

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V5N2743.D

Level: (TRACE or LOW/MED) LOW Date Received: 11/03/2011

% Moisture: not dec. 29 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	12.073	13	J
02	76-22-2	Camphor	14.501	33	NJ
	E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30S2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-14B

Sample wt/vol: 4.70 (g/mL) G Lab File ID: V5N2744.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/03/2011

% Moisture: not dec. 72 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
75-71-8	Dichlorodifluoromethane	19	U
74-87-3	Chloromethane	19	U
75-01-4	Vinyl chloride	19	U
74-83-9	Bromomethane	19	U
75-00-3	Chloroethane	19	U
75-69-4	Trichlorofluoromethane	19	U
75-35-4	1,1-Dichloroethene	19	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	19	U
67-64-1	Acetone	60	
75-15-0	Carbon disulfide	19	U
79-20-9	Methyl acetate	19	U
75-09-2	Methylene chloride	19	U
156-60-5	trans-1,2-Dichloroethene	19	U
1634-04-4	Methyl tert-butyl ether	19	U
75-34-3	1,1-Dichloroethane	19	U
156-59-2	cis-1,2-Dichloroethene	19	U
78-93-3	2-Butanone	39	U
74-97-5	Bromochloromethane	19	U
67-66-3	Chloroform	19	U
71-55-6	1,1,1-Trichloroethane	19	U
110-82-7	Cyclohexane	19	U
56-23-5	Carbon tetrachloride	19	U
71-43-2	Benzene	19	U
107-06-2	1,2-Dichloroethane	19	U
123-91-1	1,4-Dioxane	390	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30S2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-14B

Sample wt/vol: 4.70 (g/mL) G Lab File ID: V5N2744.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/03/2011

% Moisture: not dec. 72 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
79-01-6	Trichloroethene	19	U
108-87-2	Methylcyclohexane	19	U
78-87-5	1,2-Dichloropropane	19	U
75-27-4	Bromodichloromethane	19	U
10061-01-5	cis-1,3-Dichloropropene	19	U
108-10-1	4-Methyl-2-pentanone	39	U
108-88-3	Toluene	19	U
10061-02-6	trans-1,3-Dichloropropene	19	U
79-00-5	1,1,2-Trichloroethane	19	U
127-18-4	Tetrachloroethene	19	U
591-78-6	2-Hexanone	39	U
124-48-1	Dibromochloromethane	19	U
106-93-4	1,2-Dibromoethane	19	U
108-90-7	Chlorobenzene	19	U
100-41-4	Ethylbenzene	19	U
179601-23-1	m,p-Xylene	19	U
95-47-6	o-Xylene	19	U
100-42-5	Styrene	19	U
75-25-2	Bromoform	19	U
98-82-8	Isopropylbenzene	19	U
79-34-5	1,1,2,2-Tetrachloroethane	19	U
541-73-1	1,3-Dichlorobenzene	19	U
106-46-7	1,4-Dichlorobenzene	19	U
95-50-1	1,2-Dichlorobenzene	19	U
96-12-8	1,2-Dibromo-3-chloropropane	19	U
120-82-1	1,2,4-Trichlorobenzene	19	U
87-61-6	1,2,3-Trichlorobenzene	19	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30S2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-14B

Sample wt/vol: 4.70 (g/mL) G Lab File ID: V5N2744.D

Level: (TRACE or LOW/MED) LOW Date Received: 11/03/2011

% Moisture: not dec. 72 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	79-92-5	Camphene	10.907	230	NJ
02		Unknown-01	11.221	48	J
03	20536-40-7	Bicyclo[2.2.1]heptane, 2,2,3	11.348	210	NJ
04	13466-78-9	3-Carene	11.778	21	NJ
05	527-84-4	Benzene, 1-methyl-2-(1-methy	12.068	310	NJ
06	464-49-3	Bicyclo[2.2.1]heptan-2-one,	14.507	69	NJ
07	1137-12-8	1,2,4-Methenoazulene, decahy	16.841	34	NJ
08	475-20-7	1,4-Methanoazulene, decahydr	17.224	300	NJ
09	483-77-2	Naphthalene, 1,2,3,4-tetrahy	18.200	24	NJ
	E96679[1]	Total Alkanes	N/A	61	J

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30S3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-15B

Sample wt/vol: 4.70 (g/mL) G Lab File ID: V5N2745.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/03/2011

% Moisture: not dec. 31 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
75-71-8	Dichlorodifluoromethane	7.8	U
74-87-3	Chloromethane	7.8	U
75-01-4	Vinyl chloride	7.8	U
74-83-9	Bromomethane	7.8	U
75-00-3	Chloroethane	7.8	U
75-69-4	Trichlorofluoromethane	7.8	U
75-35-4	1,1-Dichloroethene	7.8	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	7.8	U
67-64-1	Acetone	16	U
75-15-0	Carbon disulfide	7.8	U
79-20-9	Methyl acetate	7.8	U
75-09-2	Methylene chloride	7.8	U
156-60-5	trans-1,2-Dichloroethene	7.8	U
1634-04-4	Methyl tert-butyl ether	7.8	U
75-34-3	1,1-Dichloroethane	7.8	U
156-59-2	cis-1,2-Dichloroethene	7.8	U
78-93-3	2-Butanone	16	U
74-97-5	Bromochloromethane	7.8	U
67-66-3	Chloroform	5.3	J
71-55-6	1,1,1-Trichloroethane	7.8	U
110-82-7	Cyclohexane	7.8	U
56-23-5	Carbon tetrachloride	7.8	U
71-43-2	Benzene	7.8	U
107-06-2	1,2-Dichloroethane	7.8	U
123-91-1	1,4-Dioxane	160	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30S3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-15B

Sample wt/vol: 4.70 (g/mL) G Lab File ID: V5N2745.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/03/2011

% Moisture: not dec. 31 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
79-01-6	Trichloroethene	7.8	U
108-87-2	Methylcyclohexane	7.8	U
78-87-5	1,2-Dichloropropane	7.8	U
75-27-4	Bromodichloromethane	7.8	U
10061-01-5	cis-1,3-Dichloropropene	7.8	U
108-10-1	4-Methyl-2-pentanone	16	U
108-88-3	Toluene	7.8	U
10061-02-6	trans-1,3-Dichloropropene	7.8	U
79-00-5	1,1,2-Trichloroethane	7.8	U
127-18-4	Tetrachloroethene	7.8	U
591-78-6	2-Hexanone	16	U
124-48-1	Dibromochloromethane	7.8	U
106-93-4	1,2-Dibromoethane	7.8	U
108-90-7	Chlorobenzene	7.8	U
100-41-4	Ethylbenzene	7.8	U
179601-23-1	m,p-Xylene	7.8	U
95-47-6	o-Xylene	7.8	U
100-42-5	Styrene	7.8	U
75-25-2	Bromoform	7.8	U
98-82-8	Isopropylbenzene	7.8	U
79-34-5	1,1,2,2-Tetrachloroethane	7.8	U
541-73-1	1,3-Dichlorobenzene	7.8	U
106-46-7	1,4-Dichlorobenzene	7.8	U
95-50-1	1,2-Dichlorobenzene	7.8	U
96-12-8	1,2-Dibromo-3-chloropropane	7.8	U
120-82-1	1,2,4-Trichlorobenzene	7.8	U
87-61-6	1,2,3-Trichlorobenzene	7.8	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30S3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-15B

Sample wt/vol: 4.70 (g/mL) G Lab File ID: V5N2745.D

Level: (TRACE or LOW/MED) LOW Date Received: 11/03/2011

% Moisture: not dec. 31 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	6.586	9.1	J
02	475-20-7	1,4-Methanoazulene, decahydr	17.235	10	NJ
	E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30S6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-16B

Sample wt/vol: 5.10 (g/mL) G Lab File ID: V5N2746.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/03/2011

% Moisture: not dec. 74 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
75-71-8	Dichlorodifluoromethane	19	U
74-87-3	Chloromethane	19	U
75-01-4	Vinyl chloride	19	U
74-83-9	Bromomethane	19	U
75-00-3	Chloroethane	19	U
75-69-4	Trichlorofluoromethane	19	U
75-35-4	1,1-Dichloroethene	19	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	19	U
67-64-1	Acetone	40	
75-15-0	Carbon disulfide	19	U
79-20-9	Methyl acetate	19	U
75-09-2	Methylene chloride	19	U
156-60-5	trans-1,2-Dichloroethene	19	U
1634-04-4	Methyl tert-butyl ether	19	U
75-34-3	1,1-Dichloroethane	19	U
156-59-2	cis-1,2-Dichloroethene	19	U
78-93-3	2-Butanone	38	U
74-97-5	Bromochloromethane	19	U
67-66-3	Chloroform	19	U
71-55-6	1,1,1-Trichloroethane	19	U
110-82-7	Cyclohexane	19	U
56-23-5	Carbon tetrachloride	19	U
71-43-2	Benzene	19	U
107-06-2	1,2-Dichloroethane	19	U
123-91-1	1,4-Dioxane	380	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30S6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-16B

Sample wt/vol: 5.10 (g/mL) G Lab File ID: V5N2746.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/03/2011

% Moisture: not dec. 74 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
79-01-6	Trichloroethene	19	U
108-87-2	Methylcyclohexane	19	U
78-87-5	1,2-Dichloropropane	19	U
75-27-4	Bromodichloromethane	19	U
10061-01-5	cis-1,3-Dichloropropene	19	U
108-10-1	4-Methyl-2-pentanone	38	U
108-88-3	Toluene	19	U
10061-02-6	trans-1,3-Dichloropropene	19	U
79-00-5	1,1,2-Trichloroethane	19	U
127-18-4	Tetrachloroethene	19	U
591-78-6	2-Hexanone	38	U
124-48-1	Dibromochloromethane	19	U
106-93-4	1,2-Dibromoethane	19	U
108-90-7	Chlorobenzene	19	U
100-41-4	Ethylbenzene	19	U
179601-23-1	m,p-Xylene	19	U
95-47-6	o-Xylene	19	U
100-42-5	Styrene	19	U
75-25-2	Bromoform	19	U
98-82-8	Isopropylbenzene	19	U
79-34-5	1,1,2,2-Tetrachloroethane	19	U
541-73-1	1,3-Dichlorobenzene	19	U
106-46-7	1,4-Dichlorobenzene	19	U
95-50-1	1,2-Dichlorobenzene	19	U
96-12-8	1,2-Dibromo-3-chloropropane	19	U
120-82-1	1,2,4-Trichlorobenzene	19	U
87-61-6	1,2,3-Trichlorobenzene	19	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30S6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-16B

Sample wt/vol: 5.10 (g/mL) G Lab File ID: V5N2746.D

Level: (TRACE or LOW/MED) LOW Date Received: 11/03/2011

% Moisture: not dec. 74 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	11.214	56	J
02	473-19-8	Bicyclo[2.2.1]heptane, 2,2,3	11.353	220	NJ
03	535-77-3	Benzene, 1-methyl-3-(1-methy	12.073	330	NJ
04	1137-12-8	1,2,4-Methenoazulene, decahy	16.834	40	NJ
05	1135-66-6	2H-2,4a-Methanonaphthalene,	17.020	20	NJ
06	475-20-7	1,4-Methanoazulene, decahydr	17.229	360	NJ
07	483-77-2	Naphthalene, 1,2,3,4-tetrahy	18.205	27	NJ
	E96679[1]	Total Alkanes	N/A	56	J

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30T6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-02C

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V5N2722.D

Level: (TRACE/LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 22 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
75-71-8	Dichlorodifluoromethane	6.4	U
74-87-3	Chloromethane	6.4	U
75-01-4	Vinyl chloride	6.4	U
74-83-9	Bromomethane	6.4	U
75-00-3	Chloroethane	6.4	U
75-69-4	Trichlorofluoromethane	6.4	U
75-35-4	1,1-Dichloroethene	6.4	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	6.4	U
67-64-1	Acetone	13	U
75-15-0	Carbon disulfide	6.4	U
79-20-9	Methyl acetate	6.4	U
75-09-2	Methylene chloride	6.4	U
156-60-5	trans-1,2-Dichloroethene	6.4	U
1634-04-4	Methyl tert-butyl ether	6.4	U
75-34-3	1,1-Dichloroethane	6.4	U
156-59-2	cis-1,2-Dichloroethene	6.4	U
78-93-3	2-Butanone	13	U
74-97-5	Bromochloromethane	6.4	U
67-66-3	Chloroform	6.4	U
71-55-6	1,1,1-Trichloroethane	6.4	U
110-82-7	Cyclohexane	6.4	U
56-23-5	Carbon tetrachloride	6.4	U
71-43-2	Benzene	6.4	U
107-06-2	1,2-Dichloroethane	6.4	U
123-91-1	1,4-Dioxane	130	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30T6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-02C

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V5N2722.D

Level: (TRACE/LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 22 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
79-01-6	Trichloroethene	6.4	U
108-87-2	Methylcyclohexane	6.4	U
78-87-5	1,2-Dichloropropane	6.4	U
75-27-4	Bromodichloromethane	6.4	U
10061-01-5	cis-1,3-Dichloropropene	6.4	U
108-10-1	4-Methyl-2-pentanone	13	U
108-88-3	Toluene	6.4	U
10061-02-6	trans-1,3-Dichloropropene	6.4	U
79-00-5	1,1,2-Trichloroethane	6.4	U
127-18-4	Tetrachloroethene	6.4	U
591-78-6	2-Hexanone	13	U
124-48-1	Dibromochloromethane	6.4	U
106-93-4	1,2-Dibromoethane	6.4	U
108-90-7	Chlorobenzene	6.4	U
100-41-4	Ethylbenzene	6.4	U
179601-23-1	m,p-Xylene	6.4	U
95-47-6	o-Xylene	6.4	U
100-42-5	Styrene	6.4	U
75-25-2	Bromoform	6.4	U
98-82-8	Isopropylbenzene	6.4	U
79-34-5	1,1,2,2-Tetrachloroethane	6.4	U
541-73-1	1,3-Dichlorobenzene	6.4	U
106-46-7	1,4-Dichlorobenzene	6.4	U
95-50-1	1,2-Dichlorobenzene	6.4	U
96-12-8	1,2-Dibromo-3-chloropropane	6.4	U
120-82-1	1,2,4-Trichlorobenzene	6.4	U
87-61-6	1,2,3-Trichlorobenzene	6.4	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30T6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-02C

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V5N2722.D

Level: (TRACE or LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 22 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG Purge Volume: 10.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30T7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-03C

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V5N2723.D

Level: (TRACE/LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 24 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
75-71-8	Dichlorodifluoromethane	6.6	U
74-87-3	Chloromethane	6.6	U
75-01-4	Vinyl chloride	6.6	U
74-83-9	Bromomethane	6.6	U
75-00-3	Chloroethane	6.6	U
75-69-4	Trichlorofluoromethane	6.6	U
75-35-4	1,1-Dichloroethene	6.6	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	6.6	U
67-64-1	Acetone	13	U
75-15-0	Carbon disulfide	6.6	U
79-20-9	Methyl acetate	6.6	U
75-09-2	Methylene chloride	6.6	U
156-60-5	trans-1,2-Dichloroethene	6.6	U
1634-04-4	Methyl tert-butyl ether	6.6	U
75-34-3	1,1-Dichloroethane	6.6	U
156-59-2	cis-1,2-Dichloroethene	6.6	U
78-93-3	2-Butanone	13	U
74-97-5	Bromochloromethane	6.6	U
67-66-3	Chloroform	6.6	U
71-55-6	1,1,1-Trichloroethane	6.6	U
110-82-7	Cyclohexane	6.6	U
56-23-5	Carbon tetrachloride	6.6	U
71-43-2	Benzene	6.6	U
107-06-2	1,2-Dichloroethane	6.6	U
123-91-1	1,4-Dioxane	130	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30T7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-03C

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V5N2723.D

Level: (TRACE/LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 24 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
79-01-6	Trichloroethene	6.6	U
108-87-2	Methylcyclohexane	6.6	U
78-87-5	1,2-Dichloropropane	6.6	U
75-27-4	Bromodichloromethane	6.6	U
10061-01-5	cis-1,3-Dichloropropene	6.6	U
108-10-1	4-Methyl-2-pentanone	13	U
108-88-3	Toluene	6.6	U
10061-02-6	trans-1,3-Dichloropropene	6.6	U
79-00-5	1,1,2-Trichloroethane	6.6	U
127-18-4	Tetrachloroethene	6.6	U
591-78-6	2-Hexanone	13	U
124-48-1	Dibromochloromethane	6.6	U
106-93-4	1,2-Dibromoethane	6.6	U
108-90-7	Chlorobenzene	6.6	U
100-41-4	Ethylbenzene	6.6	U
179601-23-1	m,p-Xylene	6.6	U
95-47-6	o-Xylene	6.6	U
100-42-5	Styrene	6.6	U
75-25-2	Bromoform	6.6	U
98-82-8	Isopropylbenzene	6.6	U
79-34-5	1,1,2,2-Tetrachloroethane	6.6	U
541-73-1	1,3-Dichlorobenzene	6.6	U
106-46-7	1,4-Dichlorobenzene	6.6	U
95-50-1	1,2-Dichlorobenzene	6.6	U
96-12-8	1,2-Dibromo-3-chloropropane	6.6	U
120-82-1	1,2,4-Trichlorobenzene	6.6	U
87-61-6	1,2,3-Trichlorobenzene	6.6	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30T7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-03C

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V5N2723.D

Level: (TRACE or LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 24 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG Purge Volume: 10.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30T8

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-17B

Sample wt/vol: 5.10 (g/mL) G Lab File ID: V5N2747.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/03/2011

% Moisture: not dec. 43 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
75-71-8	Dichlorodifluoromethane	8.5	U
74-87-3	Chloromethane	8.5	U
75-01-4	Vinyl chloride	8.5	U
74-83-9	Bromomethane	8.5	U
75-00-3	Chloroethane	8.5	U
75-69-4	Trichlorofluoromethane	8.5	U
75-35-4	1,1-Dichloroethene	8.5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	8.5	U
67-64-1	Acetone	17	U
75-15-0	Carbon disulfide	8.5	U
79-20-9	Methyl acetate	8.5	U
75-09-2	Methylene chloride	8.5	U
156-60-5	trans-1,2-Dichloroethene	8.5	U
1634-04-4	Methyl tert-butyl ether	8.5	U
75-34-3	1,1-Dichloroethane	8.5	U
156-59-2	cis-1,2-Dichloroethene	8.5	U
78-93-3	2-Butanone	17	U
74-97-5	Bromochloromethane	8.5	U
67-66-3	Chloroform	8.5	U
71-55-6	1,1,1-Trichloroethane	8.5	U
110-82-7	Cyclohexane	8.5	U
56-23-5	Carbon tetrachloride	8.5	U
71-43-2	Benzene	8.5	U
107-06-2	1,2-Dichloroethane	8.5	U
123-91-1	1,4-Dioxane	170	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30T8

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-17B

Sample wt/vol: 5.10 (g/mL) G Lab File ID: V5N2747.D

Level: (TRACE/LOW/MED) LOW Date Received: 11/03/2011

% Moisture: not dec. 43 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
79-01-6	Trichloroethene	8.5	U
108-87-2	Methylcyclohexane	8.5	U
78-87-5	1,2-Dichloropropane	8.5	U
75-27-4	Bromodichloromethane	8.5	U
10061-01-5	cis-1,3-Dichloropropene	8.5	U
108-10-1	4-Methyl-2-pentanone	17	U
108-88-3	Toluene	8.5	U
10061-02-6	trans-1,3-Dichloropropene	8.5	U
79-00-5	1,1,2-Trichloroethane	8.5	U
127-18-4	Tetrachloroethene	8.5	U
591-78-6	2-Hexanone	17	U
124-48-1	Dibromochloromethane	8.5	U
106-93-4	1,2-Dibromoethane	8.5	U
108-90-7	Chlorobenzene	8.5	U
100-41-4	Ethylbenzene	8.5	U
179601-23-1	m,p-Xylene	8.5	U
95-47-6	o-Xylene	8.5	U
100-42-5	Styrene	8.5	U
75-25-2	Bromoform	8.5	U
98-82-8	Isopropylbenzene	8.5	U
79-34-5	1,1,2,2-Tetrachloroethane	8.5	U
541-73-1	1,3-Dichlorobenzene	8.5	U
106-46-7	1,4-Dichlorobenzene	8.5	U
95-50-1	1,2-Dichlorobenzene	8.5	U
96-12-8	1,2-Dibromo-3-chloropropane	8.5	U
120-82-1	1,2,4-Trichlorobenzene	8.5	U
87-61-6	1,2,3-Trichlorobenzene	8.5	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30T8

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-17B

Sample wt/vol: 5.10 (g/mL) G Lab File ID: V5N2747.D

Level: (TRACE or LOW/MED) LOW Date Received: 11/03/2011

% Moisture: not dec. 43 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	500-00-5	Cyclohexene, 4-methyl-1-(1-m	11.297	15	NJ
02	5256-65-5	Cyclohexene, 3-methyl-6-(1-m	11.390	35	NJ
03	5256-65-5	Cyclohexene, 3-methyl-6-(1-m	11.645	16	NJ
04	1195-31-9	Cyclohexene, 1-methyl-4-(1-m	11.936	9.7	NJ
05	1124-27-2	Cyclohexane, 1-methyl-4-(1-m	12.029	37	NJ
06	527-84-4	Benzene, 1-methyl-2-(1-methy	12.121	1300	NJ
	E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Q5

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-04A

Sample wt/vol: 30.1 (g/mL) G Lab File ID: S4E8701.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 56 Decanted: (Y/N) N Date Received: 10/29/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/14/2011

GPC Cleanup:(Y/N) Y pH: 8.3 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
100-52-7	Benzaldehyde	380	U
108-95-2	Phenol	100	J
111-44-4	Bis(2-chloroethyl)ether	380	U
95-57-8	2-Chlorophenol	380	U
95-48-7	2-Methylphenol	380	U
108-60-1	2,2´-Oxybis(1-chloropropane)	380	U
98-86-2	Acetophenone	94	J
106-44-5	4-Methylphenol	290	J
621-64-7	N-Nitroso-di-n-propylamine	380	U
67-72-1	Hexachloroethane	380	U
98-95-3	Nitrobenzene	380	U
78-59-1	Isophorone	380	U
88-75-5	2-Nitrophenol	380	U
105-67-9	2,4-Dimethylphenol	380	U
111-91-1	Bis(2-chloroethoxy)methane	380	U
120-83-2	2,4-Dichlorophenol	380	U
91-20-3	Naphthalene	95	J
106-47-8	4-Chloroaniline	380	U
87-68-3	Hexachlorobutadiene	380	U
105-60-2	Caprolactam	380	U
59-50-7	4-Chloro-3-methylphenol	380	U
91-57-6	2-Methylnaphthalene	380	U
77-47-4	Hexachlorocyclopentadiene	380	U
88-06-2	2,4,6-Trichlorophenol	380	U
95-95-4	2,4,5-Trichlorophenol	380	U
92-52-4	1,1´-Biphenyl	380	U
91-58-7	2-Chloronaphthalene	380	U
88-74-4	2-Nitroaniline	740	U
131-11-3	Dimethylphthalate	380	U
606-20-2	2,6-Dinitrotoluene	380	U
208-96-8	Acenaphthylene	380	U
99-09-2	3-Nitroaniline	740	U
83-32-9	Acenaphthene	380	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Q5

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-04A

Sample wt/vol: 30.1 (g/mL) G Lab File ID: S4E8701.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 56 Decanted: (Y/N) N Date Received: 10/29/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/14/2011

GPC Cleanup:(Y/N) Y pH: 8.3 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
51-28-5	2,4-Dinitrophenol	740	U
100-02-7	4-Nitrophenol	740	U
132-64-9	Dibenzofuran	380	U
121-14-2	2,4-Dinitrotoluene	380	U
84-66-2	Diethylphthalate	380	U
86-73-7	Fluorene	380	U
7005-72-3	4-Chlorophenyl-phenylether	380	U
100-01-6	4-Nitroaniline	740	U
534-52-1	4,6-Dinitro-2-methylphenol	740	U
86-30-6	N-Nitrosodiphenylamine (1)	380	U
95-94-3	1,2,4,5-Tetrachlorobenzene	380	U
101-55-3	4-Bromophenyl-phenylether	380	U
118-74-1	Hexachlorobenzene	380	U
1912-24-9	Atrazine	380	U
87-86-5	Pentachlorophenol	740	U
85-01-8	Phenanthrene	100	J
120-12-7	Anthracene	380	U
86-74-8	Carbazole	380	U
84-74-2	Di-n-butylphthalate	1600	B
206-44-0	Fluoranthene	130	J
129-00-0	Pyrene	380	U
85-68-7	Butylbenzylphthalate	380	U
91-94-1	3,3´-Dichlorobenzidine	380	U
56-55-3	Benzo(a)anthracene	380	U
218-01-9	Chrysene	380	U
117-81-7	Bis(2-ethylhexyl)phthalate	380	U
117-84-0	Di-n-octylphthalate	380	U
205-99-2	Benzo(b)fluoranthene	380	U
207-08-9	Benzo(k)fluoranthene	380	U
50-32-8	Benzo(a)pyrene	380	U
193-39-5	Indeno(1,2,3-cd)pyrene	380	U
53-70-3	Dibenzo(a,h)anthracene	380	U
191-24-2	Benzo(g,h,i)perylene	380	U
58-90-2	2,3,4,6-Tetrachlorophenol	380	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30Q5

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-04A

Sample wt/vol: 30.1 (g/mL) G Lab File ID: S4E8701.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 56 Decanted: (Y/N) N Date Received: 10/29/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/14/2011

GPC Cleanup: (Y/N) Y pH: 8.3 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	527-84-4	Benzene, 1-methyl-2-(1-methy	3.361	57000	NJ
02	17334-55-3	1H-Cyclopropa[a]naphthalene,	5.680	4600	NJ
03		Unknown-01	7.978	3200	J
04		Unknown-02	8.091	18000	J
05		Unknown-03	8.205	18000	J
06	1686-56-2	Phenanthrene, 7-ethenyl-1,2,	8.412	12000	NJ
07		Unknown-04	8.433	12000	J
08		Unknown-05	8.526	7200	J
09		Unknown-06	8.578	7900	J
10		Unknown-07	8.733	20000	J
11		Unknown-08	8.775	17000	J
12	112-80-1	Oleic Acid	8.868	32000	NJ
13		Unknown-09	8.940	31000	J
14		Unknown-10	9.044	10000	J
15		Unknown-11	9.199	5000	J
16		Unknown-12	9.396	33000	J
17		Unknown-13	9.437	6700	J
18		Unknown-14	9.603	42000	J
19		Unknown-15	9.727	6800	J
20		Unknown-16	9.892	5900	J
21	74685-30-6	5-Eicosene, (E)-	9.986	49000	NJ
22		Unknown-17	10.099	61000	J
23	15155-62-1	1-Docosanol, formate	10.638	3700	NJ
24		Unknown-18	12.583	3300	J
25	474-62-4	Campesterol	13.722	20000	NJ
26	83-47-6	.gamma.-Sitosterol	14.643	98000	NJ
27		Unknown-19	15.026	24000	J
28		Unknown-20	15.306	3900	J
29		Unknown-21	15.430	12000	J
30		Unknown-22	15.916	4100	J
	E96679[2]	Total Alkanes	N/A	25000	J

[2]EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Q7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-05A

Sample wt/vol: 30.3 (g/mL) G Lab File ID: S4E8709.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 68 Decanted: (Y/N) N Date Received: 10/29/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/14/2011

GPC Cleanup:(Y/N) Y pH: 8.4 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
100-52-7	Benzaldehyde	520	U
108-95-2	Phenol	520	U
111-44-4	Bis(2-chloroethyl)ether	520	U
95-57-8	2-Chlorophenol	520	U
95-48-7	2-Methylphenol	520	U
108-60-1	2,2´-Oxybis(1-chloropropane)	520	U
98-86-2	Acetophenone	520	U
106-44-5	4-Methylphenol	2400	
621-64-7	N-Nitroso-di-n-propylamine	520	U
67-72-1	Hexachloroethane	520	U
98-95-3	Nitrobenzene	520	U
78-59-1	Isophorone	520	U
88-75-5	2-Nitrophenol	520	U
105-67-9	2,4-Dimethylphenol	520	U
111-91-1	Bis(2-chloroethoxy)methane	520	U
120-83-2	2,4-Dichlorophenol	520	U
91-20-3	Naphthalene	190	J
106-47-8	4-Chloroaniline	520	U
87-68-3	Hexachlorobutadiene	520	U
105-60-2	Caprolactam	520	U
59-50-7	4-Chloro-3-methylphenol	520	U
91-57-6	2-Methylnaphthalene	520	U
77-47-4	Hexachlorocyclopentadiene	520	U
88-06-2	2,4,6-Trichlorophenol	520	U
95-95-4	2,4,5-Trichlorophenol	520	U
92-52-4	1,1´-Biphenyl	520	U
91-58-7	2-Chloronaphthalene	520	U
88-74-4	2-Nitroaniline	1000	U
131-11-3	Dimethylphthalate	520	U
606-20-2	2,6-Dinitrotoluene	520	U
208-96-8	Acenaphthylene	320	J
99-09-2	3-Nitroaniline	1000	U
83-32-9	Acenaphthene	520	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Q7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-05A

Sample wt/vol: 30.3 (g/mL) G Lab File ID: S4E8709.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 68 Decanted: (Y/N) N Date Received: 10/29/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/14/2011

GPC Cleanup:(Y/N) Y pH: 8.4 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
51-28-5	2,4-Dinitrophenol	1000	U
100-02-7	4-Nitrophenol	1000	U
132-64-9	Dibenzofuran	520	U
121-14-2	2,4-Dinitrotoluene	520	U
84-66-2	Diethylphthalate	520	U
86-73-7	Fluorene	520	U
7005-72-3	4-Chlorophenyl-phenylether	520	U
100-01-6	4-Nitroaniline	1000	U
534-52-1	4,6-Dinitro-2-methylphenol	1000	U
86-30-6	N-Nitrosodiphenylamine (1)	520	U
95-94-3	1,2,4,5-Tetrachlorobenzene	520	U
101-55-3	4-Bromophenyl-phenylether	520	U
118-74-1	Hexachlorobenzene	520	U
1912-24-9	Atrazine	520	U
87-86-5	Pentachlorophenol	1000	U
85-01-8	Phenanthrene	490	J
120-12-7	Anthracene	520	U
86-74-8	Carbazole	520	U
84-74-2	Di-n-butylphthalate	5900	B
206-44-0	Fluoranthene	520	U
129-00-0	Pyrene	520	U
85-68-7	Butylbenzylphthalate	520	U
91-94-1	3,3´-Dichlorobenzidine	520	U
56-55-3	Benzo(a)anthracene	520	U
218-01-9	Chrysene	520	U
117-81-7	Bis(2-ethylhexyl)phthalate	520	U
117-84-0	Di-n-octylphthalate	520	U
205-99-2	Benzo(b)fluoranthene	520	U
207-08-9	Benzo(k)fluoranthene	520	U
50-32-8	Benzo(a)pyrene	520	U
193-39-5	Indeno(1,2,3-cd)pyrene	520	U
53-70-3	Dibenzo(a,h)anthracene	520	U
191-24-2	Benzo(g,h,i)perylene	520	U
58-90-2	2,3,4,6-Tetrachlorophenol	520	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: H30Q7

Lab Name: MITKEM LABORATORIES | Contract: EP-W-11-033

Lab Code: MITKEM | Case No.: 41926 | Mod. Ref No.: | SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL | Lab Sample ID: K2199-05A

Sample wt/vol: 30.3 (g/mL) G | Lab File ID: S4E8709.D

Level: (TRACE or LOW/MED) LOW | Extraction: (Type) SONC

% Moisture: 68 | Decanted: (Y/N) N | Date Received: 10/29/2011

Concentrated Extract Volume: 500 (uL) | Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) | GPC Factor: 2.00 | Date Analyzed: 11/14/2011

GPC Cleanup: (Y/N) Y | pH: 8.4 | Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	80-56-8	.alpha.-Pinene	2.854	8800	NJ
02		Unknown-01	3.123	6200	J
03	13466-78-9	3-Carene	3.289	14000	NJ
04		Unknown-02	3.382	150000	J
05	475-20-7	1,4-Methanoazulene, decahydr	5.700	4900	NJ
06	483-76-1	Naphthalene, 1,2,3,5,6,8a-he	6.176	4100	NJ
07	544-63-8	Tetradecanoic acid	7.253	3800	NJ
08		Unknown-03	8.008	3500	J
09		Unknown-04	8.133	20000	J
10	57-10-3	n-Hexadecanoic acid	8.205	34000	NJ
11		Unknown-05	8.247	24000	J
12		Unknown-06	8.454	26000	J
13		Unknown-07	8.567	13000	J
14	1000210-28-9	7-Isopropyl-1,1,4a-trimethyl	8.630	14000	NJ
15		Unknown-08	8.785	33000	J
16		Unknown-09	8.826	23000	J
17	112-80-1	Oleic Acid	8.940	43000	NJ
18		Unknown-10	9.095	13000	J
19		Unknown-11	9.137	22000	J
20		Unknown-12	9.261	14000	J
21		Unknown-13	9.447	42000	J
22		Unknown-14	9.665	100000	J
23	24035-43-6	1-Phenanthrenemethanol, 1,2,	9.789	35000	NJ
24	3452-07-1	1-Eicosene	10.110	260000	NJ
25		Unknown-15	12.697	3600	J
26		Unknown-16	13.856	14000	J
27	1000214-20-7	Stigmasterol, 22,23-dihydro-	14.933	65000	NJ
28		Unknown-17	15.326	26000	J
29		Unknown-18	15.761	15000	J
30		Unknown-19	16.247	18000	J
	E96679[2]	Total Alkanes	N/A	22000	J

[2]EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30R2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-06A

Sample wt/vol: 30.3 (g/mL) G Lab File ID: S4E8678.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 31 Decanted: (Y/N) N Date Received: 10/29/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/13/2011

GPC Cleanup:(Y/N) Y pH: 10.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
100-52-7	Benzaldehyde	240	U
108-95-2	Phenol	240	U
111-44-4	Bis(2-chloroethyl)ether	240	U
95-57-8	2-Chlorophenol	240	U
95-48-7	2-Methylphenol	240	U
108-60-1	2,2´-Oxybis(1-chloropropane)	240	U
98-86-2	Acetophenone	240	U
106-44-5	4-Methylphenol	240	U
621-64-7	N-Nitroso-di-n-propylamine	240	U
67-72-1	Hexachloroethane	240	U
98-95-3	Nitrobenzene	240	U
78-59-1	Isophorone	240	U
88-75-5	2-Nitrophenol	240	U
105-67-9	2,4-Dimethylphenol	240	U
111-91-1	Bis(2-chloroethoxy)methane	240	U
120-83-2	2,4-Dichlorophenol	240	U
91-20-3	Naphthalene	240	U
106-47-8	4-Chloroaniline	240	U
87-68-3	Hexachlorobutadiene	240	U
105-60-2	Caprolactam	240	U
59-50-7	4-Chloro-3-methylphenol	240	U
91-57-6	2-Methylnaphthalene	240	U
77-47-4	Hexachlorocyclopentadiene	240	U
88-06-2	2,4,6-Trichlorophenol	240	U
95-95-4	2,4,5-Trichlorophenol	240	U
92-52-4	1,1´-Biphenyl	240	U
91-58-7	2-Chloronaphthalene	240	U
88-74-4	2-Nitroaniline	470	U
131-11-3	Dimethylphthalate	240	U
606-20-2	2,6-Dinitrotoluene	240	U
208-96-8	Acenaphthylene	240	U
99-09-2	3-Nitroaniline	470	U
83-32-9	Acenaphthene	240	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30R2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-06A

Sample wt/vol: 30.3 (g/mL) G Lab File ID: S4E8678.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 31 Decanted: (Y/N) N Date Received: 10/29/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/13/2011

GPC Cleanup:(Y/N) Y pH: 10.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
51-28-5	2,4-Dinitrophenol	470	U
100-02-7	4-Nitrophenol	470	U
132-64-9	Dibenzofuran	240	U
121-14-2	2,4-Dinitrotoluene	240	U
84-66-2	Diethylphthalate	240	U
86-73-7	Fluorene	240	U
7005-72-3	4-Chlorophenyl-phenylether	240	U
100-01-6	4-Nitroaniline	470	U
534-52-1	4,6-Dinitro-2-methylphenol	470	U
86-30-6	N-Nitrosodiphenylamine (1)	240	U
95-94-3	1,2,4,5-Tetrachlorobenzene	240	U
101-55-3	4-Bromophenyl-phenylether	240	U
118-74-1	Hexachlorobenzene	240	U
1912-24-9	Atrazine	240	U
87-86-5	Pentachlorophenol	470	U
85-01-8	Phenanthrene	240	U
120-12-7	Anthracene	240	U
86-74-8	Carbazole	240	U
84-74-2	Di-n-butylphthalate	86	BJ
206-44-0	Fluoranthene	240	U
129-00-0	Pyrene	240	U
85-68-7	Butylbenzylphthalate	240	U
91-94-1	3,3´-Dichlorobenzidine	240	U
56-55-3	Benzo(a)anthracene	240	U
218-01-9	Chrysene	240	U
117-81-7	Bis(2-ethylhexyl)phthalate	290	
117-84-0	Di-n-octylphthalate	240	U
205-99-2	Benzo(b)fluoranthene	240	U
207-08-9	Benzo(k)fluoranthene	240	U
50-32-8	Benzo(a)pyrene	240	U
193-39-5	Indeno(1,2,3-cd)pyrene	240	U
53-70-3	Dibenzo(a,h)anthracene	240	U
191-24-2	Benzo(g,h,i)perylene	240	U
58-90-2	2,3,4,6-Tetrachlorophenol	240	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30R2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-06A

Sample wt/vol: 30.3 (g/mL) G Lab File ID: S4E8678.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 31 Decanted: (Y/N) N Date Received: 10/29/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/13/2011

GPC Cleanup: (Y/N) Y pH: 10.0 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	3.020	100	J
02	99-85-4	1,4-Cyclohexadiene, 1-methyl	3.320	140	NJ
03		Unknown-02	4.107	160	J
04		Unknown-03	5.007	430	J
05		Unknown-04	5.732	700	J
06		Unknown-05	8.236	980	J
07		Unknown-06	8.443	1200	J
08		Unknown-07	8.568	2900	J
09		Unknown-08	8.951	1900	J
10		Unknown-09	9.209	7100	J
11		Unknown-10	9.396	31000	J
12	3452-07-1	1-Eicosene	9.965	2200	NJ
13		Unknown-11	12.408	14000	J
14		Unknown-12	12.946	13000	J
15		Unknown-13	14.115	7300	J
16		Unknown-14	14.426	6700	J
17		Unknown-15	14.705	8100	J
18		Unknown-16	15.109	5900	J
19		Unknown-17	15.823	14000	J
20		Unknown-18	16.382	8700	J
	E96679[2]	Total Alkanes	N/A	16000	J

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30R3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-07A

Sample wt/vol: 30.5 (g/mL) G Lab File ID: S4E8710.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 63 Decanted: (Y/N) N Date Received: 10/29/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/14/2011

GPC Cleanup:(Y/N) Y pH: 9.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
100-52-7	Benzaldehyde	460	U
108-95-2	Phenol	2400	
111-44-4	Bis(2-chloroethyl)ether	460	U
95-57-8	2-Chlorophenol	460	U
95-48-7	2-Methylphenol	460	U
108-60-1	2,2´-Oxybis(1-chloropropane)	460	U
98-86-2	Acetophenone	460	U
106-44-5	4-Methylphenol	1800	
621-64-7	N-Nitroso-di-n-propylamine	460	U
67-72-1	Hexachloroethane	460	U
98-95-3	Nitrobenzene	460	U
78-59-1	Isophorone	460	U
88-75-5	2-Nitrophenol	460	U
105-67-9	2,4-Dimethylphenol	460	U
111-91-1	Bis(2-chloroethoxy)methane	460	U
120-83-2	2,4-Dichlorophenol	460	U
91-20-3	Naphthalene	460	U
106-47-8	4-Chloroaniline	460	U
87-68-3	Hexachlorobutadiene	460	U
105-60-2	Caprolactam	460	U
59-50-7	4-Chloro-3-methylphenol	460	U
91-57-6	2-Methylnaphthalene	460	U
77-47-4	Hexachlorocyclopentadiene	460	U
88-06-2	2,4,6-Trichlorophenol	460	U
95-95-4	2,4,5-Trichlorophenol	460	U
92-52-4	1,1´-Biphenyl	460	U
91-58-7	2-Chloronaphthalene	460	U
88-74-4	2-Nitroaniline	890	U
131-11-3	Dimethylphthalate	460	U
606-20-2	2,6-Dinitrotoluene	460	U
208-96-8	Acenaphthylene	460	U
99-09-2	3-Nitroaniline	890	U
83-32-9	Acenaphthene	460	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30R3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-07A

Sample wt/vol: 30.5 (g/mL) G Lab File ID: S4E8710.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 63 Decanted: (Y/N) N Date Received: 10/29/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/14/2011

GPC Cleanup:(Y/N) Y pH: 9.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
51-28-5	2,4-Dinitrophenol	890	U
100-02-7	4-Nitrophenol	890	U
132-64-9	Dibenzofuran	460	U
121-14-2	2,4-Dinitrotoluene	460	U
84-66-2	Diethylphthalate	460	U
86-73-7	Fluorene	460	U
7005-72-3	4-Chlorophenyl-phenylether	460	U
100-01-6	4-Nitroaniline	890	U
534-52-1	4,6-Dinitro-2-methylphenol	890	U
86-30-6	N-Nitrosodiphenylamine (1)	460	U
95-94-3	1,2,4,5-Tetrachlorobenzene	460	U
101-55-3	4-Bromophenyl-phenylether	460	U
118-74-1	Hexachlorobenzene	460	U
1912-24-9	Atrazine	460	U
87-86-5	Pentachlorophenol	890	U
85-01-8	Phenanthrene	460	U
120-12-7	Anthracene	460	U
86-74-8	Carbazole	460	U
84-74-2	Di-n-butylphthalate	1500	B
206-44-0	Fluoranthene	460	U
129-00-0	Pyrene	460	U
85-68-7	Butylbenzylphthalate	460	U
91-94-1	3,3´-Dichlorobenzidine	460	U
56-55-3	Benzo(a)anthracene	460	U
218-01-9	Chrysene	460	U
117-81-7	Bis(2-ethylhexyl)phthalate	460	U
117-84-0	Di-n-octylphthalate	460	U
205-99-2	Benzo(b)fluoranthene	460	U
207-08-9	Benzo(k)fluoranthene	460	U
50-32-8	Benzo(a)pyrene	460	U
193-39-5	Indeno(1,2,3-cd)pyrene	460	U
53-70-3	Dibenzo(a,h)anthracene	460	U
191-24-2	Benzo(g,h,i)perylene	460	U
58-90-2	2,3,4,6-Tetrachlorophenol	460	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30R3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-07A

Sample wt/vol: 30.5 (g/mL) G Lab File ID: S4E8710.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 63 Decanted: (Y/N) N Date Received: 10/29/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/14/2011

GPC Cleanup: (Y/N) Y pH: 9.0 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	99-85-4	1,4-Cyclohexadiene, 1-methyl	2.864	7300	NJ
02	488-97-1	Tricyclo[2.2.1.0(2,6)]heptan	3.134	3400	NJ
03		Unknown-01	3.165	11000	J
04	13466-78-9	3-Carene	3.289	11000	NJ
05	99-87-6	Benzene, 1-methyl-4-(1-methy	3.382	47000	NJ
06	475-20-7	1,4-Methanoazulene, decahydr	5.711	4600	NJ
07	483-76-1	Naphthalene, 1,2,3,5,6,8a-he	6.187	1900	NJ
08	544-63-8	Tetradecanoic acid	7.253	6100	NJ
09		Unknown-02	7.905	2600	J
10		Unknown-03	8.019	2900	J
11		Unknown-04	8.133	15000	J
12		Unknown-05	8.195	42000	J
13		Unknown-06	8.236	15000	J
14	596-84-9	1H-Naphtho[2,1-b]pyran, 3-et	8.412	3900	NJ
15		Unknown-07	8.454	11000	J
16		Unknown-08	8.599	12000	J
17		Unknown-09	8.681	4300	J
18		Unknown-10	8.774	12000	J
19		Unknown-11	8.816	18000	J
20		Unknown-12	8.909	20000	J
21		Unknown-13	9.437	22000	J
22		Unknown-14	9.613	11000	J
23	1740-19-8	1-Phenanthrenecarboxylic aci	10.192	47000	NJ
24		Unknown-15	11.911	1700	J
25		Unknown-16	12.459	4600	J
26	59-02-9	Vitamin E	12.832	2400	NJ
27	474-62-4	Campesterol	13.846	2500	NJ
28	1000214-20-7	Stigmasterol, 22,23-dihydro-	14.726	8300	NJ
29		Unknown-17	15.150	5700	J
30		Unknown-18	15.595	4600	J
	E96679[2]	Total Alkanes	N/A	14000	J

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30R4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-08A

Sample wt/vol: 30.5 (g/mL) G Lab File ID: S4E8680.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 80 Decanted: (Y/N) N Date Received: 10/29/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/13/2011

GPC Cleanup:(Y/N) Y pH: 8.2 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
100-52-7	Benzaldehyde	820	U
108-95-2	Phenol	820	U
111-44-4	Bis(2-chloroethyl)ether	820	U
95-57-8	2-Chlorophenol	820	U
95-48-7	2-Methylphenol	820	U
108-60-1	2,2´-Oxybis(1-chloropropane)	820	U
98-86-2	Acetophenone	820	U
106-44-5	4-Methylphenol	44000	E
621-64-7	N-Nitroso-di-n-propylamine	820	U
67-72-1	Hexachloroethane	820	U
98-95-3	Nitrobenzene	820	U
78-59-1	Isophorone	820	U
88-75-5	2-Nitrophenol	820	U
105-67-9	2,4-Dimethylphenol	820	U
111-91-1	Bis(2-chloroethoxy)methane	820	U
120-83-2	2,4-Dichlorophenol	820	U
91-20-3	Naphthalene	250	J
106-47-8	4-Chloroaniline	820	U
87-68-3	Hexachlorobutadiene	820	U
105-60-2	Caprolactam	820	U
59-50-7	4-Chloro-3-methylphenol	820	U
91-57-6	2-Methylnaphthalene	820	U
77-47-4	Hexachlorocyclopentadiene	820	U
88-06-2	2,4,6-Trichlorophenol	820	U
95-95-4	2,4,5-Trichlorophenol	820	U
92-52-4	1,1´-Biphenyl	820	U
91-58-7	2-Chloronaphthalene	820	U
88-74-4	2-Nitroaniline	1600	U
131-11-3	Dimethylphthalate	820	U
606-20-2	2,6-Dinitrotoluene	820	U
208-96-8	Acenaphthylene	820	U
99-09-2	3-Nitroaniline	1600	U
83-32-9	Acenaphthene	820	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30R4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-08A

Sample wt/vol: 30.5 (g/mL) G Lab File ID: S4E8680.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 80 Decanted: (Y/N) N Date Received: 10/29/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/13/2011

GPC Cleanup:(Y/N) Y pH: 8.2 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
51-28-5	2,4-Dinitrophenol	1600	U
100-02-7	4-Nitrophenol	1600	U
132-64-9	Dibenzofuran	820	U
121-14-2	2,4-Dinitrotoluene	820	U
84-66-2	Diethylphthalate	260	J
86-73-7	Fluorene	820	U
7005-72-3	4-Chlorophenyl-phenylether	820	U
100-01-6	4-Nitroaniline	1600	U
534-52-1	4,6-Dinitro-2-methylphenol	1600	U
86-30-6	N-Nitrosodiphenylamine (1)	820	U
95-94-3	1,2,4,5-Tetrachlorobenzene	820	U
101-55-3	4-Bromophenyl-phenylether	820	U
118-74-1	Hexachlorobenzene	820	U
1912-24-9	Atrazine	820	U
87-86-5	Pentachlorophenol	1600	U
85-01-8	Phenanthrene	200	J
120-12-7	Anthracene	820	U
86-74-8	Carbazole	820	U
84-74-2	Di-n-butylphthalate	3800	B
206-44-0	Fluoranthene	820	U
129-00-0	Pyrene	820	U
85-68-7	Butylbenzylphthalate	860	
91-94-1	3,3´-Dichlorobenzidine	820	U
56-55-3	Benzo(a)anthracene	820	U
218-01-9	Chrysene	820	U
117-81-7	Bis(2-ethylhexyl)phthalate	820	U
117-84-0	Di-n-octylphthalate	820	U
205-99-2	Benzo(b)fluoranthene	820	U
207-08-9	Benzo(k)fluoranthene	820	U
50-32-8	Benzo(a)pyrene	820	U
193-39-5	Indeno(1,2,3-cd)pyrene	820	U
53-70-3	Dibenzo(a,h)anthracene	820	U
191-24-2	Benzo(g,h,i)perylene	820	U
58-90-2	2,3,4,6-Tetrachlorophenol	820	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30R4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-08A

Sample wt/vol: 30.5 (g/mL) G Lab File ID: S4E8680.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 80 Decanted: (Y/N) N Date Received: 10/29/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/13/2011

GPC Cleanup: (Y/N) Y pH: 8.2 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	2.999	730	J
02		Unknown-02	3.165	850	J
03		Unknown-03	3.320	2200	J
04	527-84-4	Benzene, 1-methyl-2-(1-methy	3.403	43000	NJ
05		Unknown-04	4.106	390	J
06		Unknown-05	4.169	930	J
07	620-17-7	Phenol, 3-ethyl-	4.210	2400	NJ
08		Unknown-06	4.334	430	J
09		Unknown-07	4.655	1500	J
10		Unknown-08	4.738	1200	J
11		Unknown-09	4.945	960	J
12		Unknown-10	5.100	630	J
13		Unknown-11	5.141	390	J
14		Unknown-12	5.400	1700	J
15		Unknown-13	5.535	590	J
16		Unknown-14	5.731	6500	J
17	26505-36-2	3-(4-Pyridyl)acrylaldehyde	6.001	1700	NJ
18		Unknown-15	7.398	1600	J
19		Unknown-16	8.267	9600	J
20	84-65-1	9,10-Anthracenedione	8.360	6600	NJ
21	1686-56-2	Phenanthrene, 7-ethenyl-1,2,	8.454	10000	NJ
22		Unknown-17	8.764	8700	J
23		Unknown-18	8.816	23000	J
24		Unknown-19	8.878	9600	J
25		Unknown-20	10.047	3400	J
26		Unknown-21	10.368	840	J
27	83-47-6	.gamma.-Sitosterol	14.540	59000	NJ
28		Unknown-22	14.974	21000	J
	E96679[2]	Total Alkanes	N/A	990000	J

[2]EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30R4DL

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-08ADL

Sample wt/vol: 30.5 (g/mL) G Lab File ID: S4E8695.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 80 Decanted: (Y/N) N Date Received: 10/29/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/14/2011

GPC Cleanup:(Y/N) Y pH: 8.2 Dilution Factor: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
100-52-7	Benzaldehyde	4100	U
108-95-2	Phenol	4100	U
111-44-4	Bis(2-chloroethyl)ether	4100	U
95-57-8	2-Chlorophenol	4100	U
95-48-7	2-Methylphenol	4100	U
108-60-1	2,2´-Oxybis(1-chloropropane)	4100	U
98-86-2	Acetophenone	4100	U
106-44-5	4-Methylphenol	40000	D
621-64-7	N-Nitroso-di-n-propylamine	4100	U
67-72-1	Hexachloroethane	4100	U
98-95-3	Nitrobenzene	4100	U
78-59-1	Isophorone	4100	U
88-75-5	2-Nitrophenol	4100	U
105-67-9	2,4-Dimethylphenol	4100	U
111-91-1	Bis(2-chloroethoxy)methane	4100	U
120-83-2	2,4-Dichlorophenol	4100	U
91-20-3	Naphthalene	4100	U
106-47-8	4-Chloroaniline	4100	U
87-68-3	Hexachlorobutadiene	4100	U
105-60-2	Caprolactam	4100	U
59-50-7	4-Chloro-3-methylphenol	4100	U
91-57-6	2-Methylnaphthalene	4100	U
77-47-4	Hexachlorocyclopentadiene	4100	U
88-06-2	2,4,6-Trichlorophenol	4100	U
95-95-4	2,4,5-Trichlorophenol	4100	U
92-52-4	1,1´-Biphenyl	4100	U
91-58-7	2-Chloronaphthalene	4100	U
88-74-4	2-Nitroaniline	7900	U
131-11-3	Dimethylphthalate	4100	U
606-20-2	2,6-Dinitrotoluene	4100	U
208-96-8	Acenaphthylene	4100	U
99-09-2	3-Nitroaniline	7900	U
83-32-9	Acenaphthene	4100	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30R4DL

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-08ADL

Sample wt/vol: 30.5 (g/mL) G Lab File ID: S4E8695.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 80 Decanted: (Y/N) N Date Received: 10/29/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/14/2011

GPC Cleanup:(Y/N) Y pH: 8.2 Dilution Factor: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
51-28-5	2,4-Dinitrophenol	7900	U
100-02-7	4-Nitrophenol	7900	U
132-64-9	Dibenzofuran	4100	U
121-14-2	2,4-Dinitrotoluene	4100	U
84-66-2	Diethylphthalate	4100	U
86-73-7	Fluorene	4100	U
7005-72-3	4-Chlorophenyl-phenylether	4100	U
100-01-6	4-Nitroaniline	7900	U
534-52-1	4,6-Dinitro-2-methylphenol	7900	U
86-30-6	N-Nitrosodiphenylamine (1)	4100	U
95-94-3	1,2,4,5-Tetrachlorobenzene	4100	U
101-55-3	4-Bromophenyl-phenylether	4100	U
118-74-1	Hexachlorobenzene	4100	U
1912-24-9	Atrazine	4100	U
87-86-5	Pentachlorophenol	7900	U
85-01-8	Phenanthrene	4100	U
120-12-7	Anthracene	4100	U
86-74-8	Carbazole	4100	U
84-74-2	Di-n-butylphthalate	4900	DB
206-44-0	Fluoranthene	4100	U
129-00-0	Pyrene	4100	U
85-68-7	Butylbenzylphthalate	1200	DJ
91-94-1	3,3´-Dichlorobenzidine	4100	U
56-55-3	Benzo(a)anthracene	4100	U
218-01-9	Chrysene	4100	U
117-81-7	Bis(2-ethylhexyl)phthalate	5000	D
117-84-0	Di-n-octylphthalate	4100	U
205-99-2	Benzo(b)fluoranthene	4100	U
207-08-9	Benzo(k)fluoranthene	4100	U
50-32-8	Benzo(a)pyrene	4100	U
193-39-5	Indeno(1,2,3-cd)pyrene	4100	U
53-70-3	Dibenzo(a,h)anthracene	4100	U
191-24-2	Benzo(g,h,i)perylene	4100	U
58-90-2	2,3,4,6-Tetrachlorophenol	4100	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: H30R4DL

Lab Name: MITKEM LABORATORIES | Contract: EP-W-11-033

Lab Code: MITKEM | Case No.: 41926 | Mod. Ref No.: | SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL | Lab Sample ID: K2199-08ADL

Sample wt/vol: 30.5 (g/mL) G | Lab File ID: S4E8695.D

Level: (TRACE or LOW/MED) LOW | Extraction: (Type) SONC

% Moisture: 80 | Decanted: (Y/N) N | Date Received: 10/29/2011

Concentrated Extract Volume: 500 (uL) | Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) | GPC Factor: 2.00 | Date Analyzed: 11/14/2011

GPC Cleanup: (Y/N) Y | pH: 8.2 | Dilution Factor: 5.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	527-84-4	Benzene, 1-methyl-2-(1-methy	3.351	53000	DNJ
02	620-17-7	Phenol, 3-ethyl-	4.138	5000	DNJ
03	475-20-7	1,4-Methanoazulene, decahydr	5.670	10000	DNJ
04		Unknown-01	5.939	3700	DJ
05		Unknown-02	6.384	6700	DJ
06		Unknown-03	7.005	3600	DJ
07		Unknown-04	8.081	3300	DJ
08		Unknown-05	8.174	15000	DJ
09		Unknown-06	8.195	15000	DJ
10		Unknown-07	8.247	2700	DJ
11	84-65-1	9,10-Anthracenedione	8.288	8700	DNJ
12		Unknown-08	8.350	3600	DJ
13		Unknown-09	8.381	12000	DJ
14		Unknown-10	8.702	10000	DJ
15	51487-38-8	1,5,9,13-Tetradecatetraene	8.744	25000	DNJ
16		Unknown-11	8.795	8300	DJ
17		Unknown-12	9.033	5100	DJ
18		Unknown-13	9.158	3900	DJ
19		Unknown-14	9.323	8900	DJ
20		Unknown-15	9.437	2600	DJ
21	74685-33-9	3-Eicosene, (E)-	9.592	52000	DNJ
22	13187-99-0	2-Bromo dodecane	10.234	60000	DNJ
23	474-62-4	Campesterol	13.546	6800	DNJ
24		Unknown-16	13.650	3700	DJ
25		Unknown-17	14.126	2800	DJ
26	83-47-6	.gamma.-Sitosterol	14.250	24000	DNJ
27		Unknown-18	14.374	4200	DJ
28		Unknown-19	14.695	6900	DJ
29		Unknown-20	15.616	2200	DJ
	E96679[2]	Total Alkanes	N/A	290000	J

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30R6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-09A

Sample wt/vol: 30.2 (g/mL) G Lab File ID: S4E8681.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 67 Decanted: (Y/N) N Date Received: 10/29/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/13/2011

GPC Cleanup:(Y/N) Y pH: 7.7 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
100-52-7	Benzaldehyde	510	U
108-95-2	Phenol	510	U
111-44-4	Bis(2-chloroethyl)ether	510	U
95-57-8	2-Chlorophenol	510	U
95-48-7	2-Methylphenol	510	U
108-60-1	2,2´-Oxybis(1-chloropropane)	510	U
98-86-2	Acetophenone	510	U
106-44-5	4-Methylphenol	1400	
621-64-7	N-Nitroso-di-n-propylamine	510	U
67-72-1	Hexachloroethane	510	U
98-95-3	Nitrobenzene	510	U
78-59-1	Isophorone	510	U
88-75-5	2-Nitrophenol	510	U
105-67-9	2,4-Dimethylphenol	510	U
111-91-1	Bis(2-chloroethoxy)methane	510	U
120-83-2	2,4-Dichlorophenol	510	U
91-20-3	Naphthalene	510	U
106-47-8	4-Chloroaniline	510	U
87-68-3	Hexachlorobutadiene	510	U
105-60-2	Caprolactam	510	U
59-50-7	4-Chloro-3-methylphenol	510	U
91-57-6	2-Methylnaphthalene	510	U
77-47-4	Hexachlorocyclopentadiene	510	U
88-06-2	2,4,6-Trichlorophenol	510	U
95-95-4	2,4,5-Trichlorophenol	510	U
92-52-4	1,1´-Biphenyl	510	U
91-58-7	2-Chloronaphthalene	510	U
88-74-4	2-Nitroaniline	980	U
131-11-3	Dimethylphthalate	510	U
606-20-2	2,6-Dinitrotoluene	510	U
208-96-8	Acenaphthylene	510	U
99-09-2	3-Nitroaniline	980	U
83-32-9	Acenaphthene	510	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30R6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-09A

Sample wt/vol: 30.2 (g/mL) G Lab File ID: S4E8681.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 67 Decanted: (Y/N) N Date Received: 10/29/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/13/2011

GPC Cleanup:(Y/N) Y pH: 7.7 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
51-28-5	2,4-Dinitrophenol	980	U
100-02-7	4-Nitrophenol	980	U
132-64-9	Dibenzofuran	510	U
121-14-2	2,4-Dinitrotoluene	510	U
84-66-2	Diethylphthalate	510	U
86-73-7	Fluorene	510	U
7005-72-3	4-Chlorophenyl-phenylether	510	U
100-01-6	4-Nitroaniline	980	U
534-52-1	4,6-Dinitro-2-methylphenol	980	U
86-30-6	N-Nitrosodiphenylamine (1)	510	U
95-94-3	1,2,4,5-Tetrachlorobenzene	510	U
101-55-3	4-Bromophenyl-phenylether	510	U
118-74-1	Hexachlorobenzene	510	U
1912-24-9	Atrazine	510	U
87-86-5	Pentachlorophenol	980	U
85-01-8	Phenanthrene	510	U
120-12-7	Anthracene	510	U
86-74-8	Carbazole	510	U
84-74-2	Di-n-butylphthalate	570	B
206-44-0	Fluoranthene	510	U
129-00-0	Pyrene	510	U
85-68-7	Butylbenzylphthalate	510	U
91-94-1	3,3´-Dichlorobenzidine	510	U
56-55-3	Benzo(a)anthracene	510	U
218-01-9	Chrysene	510	U
117-81-7	Bis(2-ethylhexyl)phthalate	820	
117-84-0	Di-n-octylphthalate	510	U
205-99-2	Benzo(b)fluoranthene	510	U
207-08-9	Benzo(k)fluoranthene	510	U
50-32-8	Benzo(a)pyrene	510	U
193-39-5	Indeno(1,2,3-cd)pyrene	510	U
53-70-3	Dibenzo(a,h)anthracene	510	U
191-24-2	Benzo(g,h,i)perylene	510	U
58-90-2	2,3,4,6-Tetrachlorophenol	510	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30R6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-09A

Sample wt/vol: 30.2 (g/mL) G Lab File ID: S4E8681.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 67 Decanted: (Y/N) N Date Received: 10/29/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/13/2011

GPC Cleanup: (Y/N) Y pH: 7.7 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	7785-70-8	1R-.alpha.-Pinene	2.896	330	NJ
02		Unknown-01	2.999	350	J
03		Unknown-02	3.165	370	J
04	29050-33-7	(+)-4-Carene	3.320	1400	NJ
05	535-77-3	Benzene, 1-methyl-3-(1-methy	3.403	7700	NJ
06		Unknown-03	3.765	220	J
07		Unknown-04	4.107	270	J
08	464-48-2	Bicyclo[2.2.1]heptan-2-one,	4.189	590	NJ
09		Unknown-05	4.334	310	J
10		Unknown-06	4.945	470	J
11	1000158-18-5	Caryophyllene-(I1)	5.380	440	NJ
12		Unknown-07	5.494	420	J
13		Unknown-08	5.535	450	J
14	475-20-7	1,4-Methanoazulene, decahydr	5.732	5300	NJ
15		Unknown-09	8.247	9200	J
16		Unknown-10	8.454	6200	J
17	15594-90-8	1-Heneicosanol	9.996	22000	NJ
18		Unknown-11	11.890	8200	J
19		Unknown-12	13.743	9800	J
20	83-47-6	.gamma.-Sitosterol	14.550	46000	NJ
21		Unknown-13	14.995	19000	J
22	2034-72-2	Stigmasta-3,5-dien-7-one	15.399	6300	NJ
	E96679[2]	Total Alkanes	N/A	65000	J

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30R7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-10A

Sample wt/vol: 30.2 (g/mL) G Lab File ID: S4E8704.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 24 Decanted: (Y/N) N Date Received: 10/29/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/14/2011

GPC Cleanup:(Y/N) Y pH: 8.5 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
100-52-7	Benzaldehyde	220	U
108-95-2	Phenol	220	U
111-44-4	Bis(2-chloroethyl)ether	220	U
95-57-8	2-Chlorophenol	220	U
95-48-7	2-Methylphenol	220	U
108-60-1	2,2´-Oxybis(1-chloropropane)	220	U
98-86-2	Acetophenone	220	U
106-44-5	4-Methylphenol	1900	
621-64-7	N-Nitroso-di-n-propylamine	220	U
67-72-1	Hexachloroethane	220	U
98-95-3	Nitrobenzene	220	U
78-59-1	Isophorone	220	U
88-75-5	2-Nitrophenol	220	U
105-67-9	2,4-Dimethylphenol	220	U
111-91-1	Bis(2-chloroethoxy)methane	220	U
120-83-2	2,4-Dichlorophenol	220	U
91-20-3	Naphthalene	110	J
106-47-8	4-Chloroaniline	220	U
87-68-3	Hexachlorobutadiene	220	U
105-60-2	Caprolactam	220	U
59-50-7	4-Chloro-3-methylphenol	220	U
91-57-6	2-Methylnaphthalene	220	U
77-47-4	Hexachlorocyclopentadiene	220	U
88-06-2	2,4,6-Trichlorophenol	220	U
95-95-4	2,4,5-Trichlorophenol	220	U
92-52-4	1,1´-Biphenyl	220	U
91-58-7	2-Chloronaphthalene	220	U
88-74-4	2-Nitroaniline	430	U
131-11-3	Dimethylphthalate	220	U
606-20-2	2,6-Dinitrotoluene	220	U
208-96-8	Acenaphthylene	100	J
99-09-2	3-Nitroaniline	430	U
83-32-9	Acenaphthene	220	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30R7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-10A

Sample wt/vol: 30.2 (g/mL) G Lab File ID: S4E8704.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 24 Decanted: (Y/N) N Date Received: 10/29/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/14/2011

GPC Cleanup:(Y/N) Y pH: 8.5 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
51-28-5	2,4-Dinitrophenol	430	U
100-02-7	4-Nitrophenol	430	U
132-64-9	Dibenzofuran	220	U
121-14-2	2,4-Dinitrotoluene	220	U
84-66-2	Diethylphthalate	220	U
86-73-7	Fluorene	220	U
7005-72-3	4-Chlorophenyl-phenylether	220	U
100-01-6	4-Nitroaniline	430	U
534-52-1	4,6-Dinitro-2-methylphenol	430	U
86-30-6	N-Nitrosodiphenylamine (1)	220	U
95-94-3	1,2,4,5-Tetrachlorobenzene	220	U
101-55-3	4-Bromophenyl-phenylether	220	U
118-74-1	Hexachlorobenzene	220	U
1912-24-9	Atrazine	220	U
87-86-5	Pentachlorophenol	430	U
85-01-8	Phenanthrene	280	
120-12-7	Anthracene	220	U
86-74-8	Carbazole	220	U
84-74-2	Di-n-butylphthalate	620	B
206-44-0	Fluoranthene	260	
129-00-0	Pyrene	250	
85-68-7	Butylbenzylphthalate	220	U
91-94-1	3,3´-Dichlorobenzidine	220	U
56-55-3	Benzo(a)anthracene	220	U
218-01-9	Chrysene	220	U
117-81-7	Bis(2-ethylhexyl)phthalate	220	U
117-84-0	Di-n-octylphthalate	220	U
205-99-2	Benzo(b)fluoranthene	220	U
207-08-9	Benzo(k)fluoranthene	220	U
50-32-8	Benzo(a)pyrene	220	U
193-39-5	Indeno(1,2,3-cd)pyrene	220	U
53-70-3	Dibenzo(a,h)anthracene	220	U
191-24-2	Benzo(g,h,i)perylene	220	U
58-90-2	2,3,4,6-Tetrachlorophenol	220	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: H30R7

Lab Name: MITKEM LABORATORIES | Contract: EP-W-11-033

Lab Code: MITKEM | Case No.: 41926 | Mod. Ref No.: | SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL | Lab Sample ID: K2199-10A

Sample wt/vol: 30.2 (g/mL) G | Lab File ID: S4E8704.D

Level: (TRACE or LOW/MED) LOW | Extraction: (Type) SONC

% Moisture: 24 | Decanted: (Y/N) N | Date Received: 10/29/2011

Concentrated Extract Volume: 500 (uL) | Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) | GPC Factor: 2.00 | Date Analyzed: 11/14/2011

GPC Cleanup: (Y/N) Y | pH: 8.5 | Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	99-85-4	1,4-Cyclohexadiene, 1-methyl	2.854	2100	NJ
02	554-61-0	Bicyclo[4.1.0]hept-2-ene, 3,	2.958	2400	NJ
03		Unknown-01	3.123	2300	J
04		Unknown-02	3.154	26000	J
05	99-85-4	1,4-Cyclohexadiene, 1-methyl	3.289	34000	NJ
06		Unknown-03	3.382	140000	J
07	464-49-3	Bicyclo[2.2.1]heptan-2-one,	4.158	2700	NJ
08	475-20-7	1,4-Methanoazulene, decahydr	5.690	1900	NJ
09	30021-74-0	Naphthalene, 1,2,3,4,4a,5,6,	5.959	720	NJ
10	31983-22-9	Naphthalene, 1,2,4a,5,6,8a-h	6.073	940	NJ
11		Unknown-04	6.166	1700	J
12		Unknown-05	6.860	530	J
13		Unknown-06	6.943	710	J
14	544-63-8	Tetradecanoic acid	7.222	1000	NJ
15		Unknown-07	7.998	770	J
16		Unknown-08	8.112	1400	J
17		Unknown-09	8.216	5100	J
18		Unknown-10	8.474	41000	J
19		Unknown-11	8.557	990	J
20	1000210-28-9	7-Isopropyl-1,1,4a-trimethyl	8.609	2600	NJ
21		Unknown-12	8.661	1100	J
22		Unknown-13	8.754	4300	J
23		Unknown-14	8.806	5000	J
24		Unknown-15	9.095	2600	J
25		Unknown-16	9.209	1900	J
26		Unknown-17	9.396	2400	J
27	1599-67-3	1-Docosene	9.986	3700	NJ
28	474-62-4	Campesterol	13.784	5200	NJ
29	83-46-5	.beta.-Sitosterol	14.643	14000	NJ
30		Unknown-18	15.088	7600	J
	E96679[2]	Total Alkanes	N/A		

[2]EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30R8

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-11A

Sample wt/vol: 30.3 (g/mL) G Lab File ID: S4E8683.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 65 Decanted: (Y/N) N Date Received: 10/29/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/13/2011

GPC Cleanup:(Y/N) Y pH: 8.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
100-52-7	Benzaldehyde	480	U
108-95-2	Phenol	480	U
111-44-4	Bis(2-chloroethyl)ether	480	U
95-57-8	2-Chlorophenol	480	U
95-48-7	2-Methylphenol	480	U
108-60-1	2,2´-Oxybis(1-chloropropane)	480	U
98-86-2	Acetophenone	480	U
106-44-5	4-Methylphenol	410	J
621-64-7	N-Nitroso-di-n-propylamine	480	U
67-72-1	Hexachloroethane	480	U
98-95-3	Nitrobenzene	480	U
78-59-1	Isophorone	480	U
88-75-5	2-Nitrophenol	480	U
105-67-9	2,4-Dimethylphenol	480	U
111-91-1	Bis(2-chloroethoxy)methane	480	U
120-83-2	2,4-Dichlorophenol	480	U
91-20-3	Naphthalene	480	U
106-47-8	4-Chloroaniline	480	U
87-68-3	Hexachlorobutadiene	480	U
105-60-2	Caprolactam	480	U
59-50-7	4-Chloro-3-methylphenol	480	U
91-57-6	2-Methylnaphthalene	480	U
77-47-4	Hexachlorocyclopentadiene	480	U
88-06-2	2,4,6-Trichlorophenol	480	U
95-95-4	2,4,5-Trichlorophenol	480	U
92-52-4	1,1´-Biphenyl	480	U
91-58-7	2-Chloronaphthalene	480	U
88-74-4	2-Nitroaniline	940	U
131-11-3	Dimethylphthalate	480	U
606-20-2	2,6-Dinitrotoluene	480	U
208-96-8	Acenaphthylene	480	U
99-09-2	3-Nitroaniline	940	U
83-32-9	Acenaphthene	480	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30R8

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-11A

Sample wt/vol: 30.3 (g/mL) G Lab File ID: S4E8683.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 65 Decanted: (Y/N) N Date Received: 10/29/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/13/2011

GPC Cleanup:(Y/N) Y pH: 8.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
51-28-5	2,4-Dinitrophenol	940	U
100-02-7	4-Nitrophenol	940	U
132-64-9	Dibenzofuran	480	U
121-14-2	2,4-Dinitrotoluene	480	U
84-66-2	Diethylphthalate	480	U
86-73-7	Fluorene	480	U
7005-72-3	4-Chlorophenyl-phenylether	480	U
100-01-6	4-Nitroaniline	940	U
534-52-1	4,6-Dinitro-2-methylphenol	940	U
86-30-6	N-Nitrosodiphenylamine (1)	480	U
95-94-3	1,2,4,5-Tetrachlorobenzene	480	U
101-55-3	4-Bromophenyl-phenylether	480	U
118-74-1	Hexachlorobenzene	480	U
1912-24-9	Atrazine	480	U
87-86-5	Pentachlorophenol	940	U
85-01-8	Phenanthrene	480	U
120-12-7	Anthracene	480	U
86-74-8	Carbazole	480	U
84-74-2	Di-n-butylphthalate	1000	B
206-44-0	Fluoranthene	480	U
129-00-0	Pyrene	480	U
85-68-7	Butylbenzylphthalate	480	U
91-94-1	3,3´-Dichlorobenzidine	480	U
56-55-3	Benzo(a)anthracene	480	U
218-01-9	Chrysene	480	U
117-81-7	Bis(2-ethylhexyl)phthalate	480	U
117-84-0	Di-n-octylphthalate	480	U
205-99-2	Benzo(b)fluoranthene	480	U
207-08-9	Benzo(k)fluoranthene	480	U
50-32-8	Benzo(a)pyrene	480	U
193-39-5	Indeno(1,2,3-cd)pyrene	480	U
53-70-3	Dibenzo(a,h)anthracene	480	U
191-24-2	Benzo(g,h,i)perylene	480	U
58-90-2	2,3,4,6-Tetrachlorophenol	480	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30R8

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-11A

Sample wt/vol: 30.3 (g/mL) G Lab File ID: S4E8683.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 65 Decanted: (Y/N) N Date Received: 10/29/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/13/2011

GPC Cleanup: (Y/N) Y pH: 8.0 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	2.896	220	J
02		Unknown-02	3.010	620	J
03	68998-21-0	Cyclopropane, 1,1-dimethyl-2	3.330	1200	NJ
04	99-87-6	Benzene, 1-methyl-4-(1-methy	3.413	29000	NJ
05		Unknown-03	3.910	250	J
06		Unknown-04	4.107	550	J
07		Unknown-05	4.169	210	J
08		Unknown-06	4.334	360	J
09		Unknown-07	5.390	770	J
10	483-76-1	Naphthalene, 1,2,3,5,6,8a-he	5.494	460	NJ
11		Unknown-08	5.545	550	J
12		Unknown-09	5.607	190	J
13	475-20-7	1,4-Methanoazulene, decahydr	5.742	8400	NJ
14	483-75-0	Naphthalene, 1,2,4a,5,6,8a-h	6.001	990	NJ
15	73105-67-6	1-Iodo-2-methylundecane	6.963	2200	NJ
16		Unknown-10	7.129	1100	J
17		Unknown-11	7.408	2500	J
18		Unknown-12	8.257	24000	J
19		Unknown-13	8.464	18000	J
20		Unknown-14	8.785	12000	J
21		Unknown-15	8.826	17000	J
22		Unknown-16	11.973	14000	J
23	474-62-4	Campesterol	13.815	32000	NJ
24	1000214-20-7	Stigmasterol, 22,23-dihydro-	14.705	140000	NJ
25		Unknown-17	15.130	66000	J
26		Unknown-18	15.740	47000	J
	E96679[2]	Total Alkanes	N/A	170000	J

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30S0

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-12A

Sample wt/vol: 30.6 (g/mL) G Lab File ID: S4E8705.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 44 Decanted: (Y/N) N Date Received: 11/03/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/14/2011

GPC Cleanup:(Y/N) Y pH: 7.8 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
100-52-7	Benzaldehyde	300	U
108-95-2	Phenol	300	U
111-44-4	Bis(2-chloroethyl)ether	300	U
95-57-8	2-Chlorophenol	300	U
95-48-7	2-Methylphenol	300	U
108-60-1	2,2´-Oxybis(1-chloropropane)	300	U
98-86-2	Acetophenone	300	U
106-44-5	4-Methylphenol	60	J
621-64-7	N-Nitroso-di-n-propylamine	300	U
67-72-1	Hexachloroethane	300	U
98-95-3	Nitrobenzene	300	U
78-59-1	Isophorone	300	U
88-75-5	2-Nitrophenol	300	U
105-67-9	2,4-Dimethylphenol	300	U
111-91-1	Bis(2-chloroethoxy)methane	300	U
120-83-2	2,4-Dichlorophenol	300	U
91-20-3	Naphthalene	300	U
106-47-8	4-Chloroaniline	300	U
87-68-3	Hexachlorobutadiene	300	U
105-60-2	Caprolactam	300	U
59-50-7	4-Chloro-3-methylphenol	300	U
91-57-6	2-Methylnaphthalene	300	U
77-47-4	Hexachlorocyclopentadiene	300	U
88-06-2	2,4,6-Trichlorophenol	300	U
95-95-4	2,4,5-Trichlorophenol	300	U
92-52-4	1,1´-Biphenyl	300	U
91-58-7	2-Chloronaphthalene	300	U
88-74-4	2-Nitroaniline	580	U
131-11-3	Dimethylphthalate	300	U
606-20-2	2,6-Dinitrotoluene	300	U
208-96-8	Acenaphthylene	300	U
99-09-2	3-Nitroaniline	580	U
83-32-9	Acenaphthene	300	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30S0

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-12A

Sample wt/vol: 30.6 (g/mL) G Lab File ID: S4E8705.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 44 Decanted: (Y/N) N Date Received: 11/03/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/14/2011

GPC Cleanup:(Y/N) Y pH: 7.8 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
51-28-5	2,4-Dinitrophenol	580	U
100-02-7	4-Nitrophenol	580	U
132-64-9	Dibenzofuran	300	U
121-14-2	2,4-Dinitrotoluene	300	U
84-66-2	Diethylphthalate	300	U
86-73-7	Fluorene	300	U
7005-72-3	4-Chlorophenyl-phenylether	300	U
100-01-6	4-Nitroaniline	580	U
534-52-1	4,6-Dinitro-2-methylphenol	580	U
86-30-6	N-Nitrosodiphenylamine (1)	300	U
95-94-3	1,2,4,5-Tetrachlorobenzene	300	U
101-55-3	4-Bromophenyl-phenylether	300	U
118-74-1	Hexachlorobenzene	300	U
1912-24-9	Atrazine	300	U
87-86-5	Pentachlorophenol	580	U
85-01-8	Phenanthrene	86	J
120-12-7	Anthracene	300	U
86-74-8	Carbazole	300	U
84-74-2	Di-n-butylphthalate	260	BJ
206-44-0	Fluoranthene	300	U
129-00-0	Pyrene	300	U
85-68-7	Butylbenzylphthalate	300	U
91-94-1	3,3´-Dichlorobenzidine	300	U
56-55-3	Benzo(a)anthracene	300	U
218-01-9	Chrysene	300	U
117-81-7	Bis(2-ethylhexyl)phthalate	1200	
117-84-0	Di-n-octylphthalate	300	U
205-99-2	Benzo(b)fluoranthene	300	U
207-08-9	Benzo(k)fluoranthene	300	U
50-32-8	Benzo(a)pyrene	300	U
193-39-5	Indeno(1,2,3-cd)pyrene	300	U
53-70-3	Dibenzo(a,h)anthracene	300	U
191-24-2	Benzo(g,h,i)perylene	300	U
58-90-2	2,3,4,6-Tetrachlorophenol	300	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: H30S0

Lab Name: MITKEM LABORATORIES | Contract: EP-W-11-033

Lab Code: MITKEM | Case No.: 41926 | Mod. Ref No.: | SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL | Lab Sample ID: K2199-12A

Sample wt/vol: 30.6 (g/mL) G | Lab File ID: S4E8705.D

Level: (TRACE or LOW/MED) LOW | Extraction: (Type) SONC

% Moisture: 44 | Decanted: (Y/N) N | Date Received: 11/03/2011

Concentrated Extract Volume: 500 (uL) | Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) | GPC Factor: 2.00 | Date Analyzed: 11/14/2011

GPC Cleanup: (Y/N) Y | pH: 7.8 | Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	2.958	200	J
02		Unknown-02	3.279	270	J
03	527-84-4	Benzene, 1-methyl-2-(1-methy	3.361	6000	NJ
04		Unknown-03	3.392	210	J
05		Unknown-04	3.424	240	J
06		Unknown-05	4.076	170	J
07		Unknown-06	4.293	230	J
08		Unknown-07	4.334	280	J
09		Unknown-08	4.873	180	J
10		Unknown-09	4.914	230	J
11	5989-08-2	Tricyclo[5.4.0.0(2,8)]undec-	5.338	250	NJ
12	17699-14-8	.alpha.-Cubebene	5.452	250	NJ
13	1000109-88-1	(+)-Cycloisosativene	5.494	170	NJ
14		Unknown-10	5.607	170	J
15		Unknown-11	5.690	1500	J
16	483-75-0	Naphthalene, 1,2,4a,5,6,8a-h	5.959	420	NJ
17		Unknown-12	6.135	170	J
18	30021-74-0	Naphthalene, 1,2,3,4,4a,5,6,	6.166	500	NJ
19		Unknown-13	6.922	580	J
20	345256-81-7	2-(2-Bromo-4-methoxyphenoxy)	7.088	240	NJ
21		Unknown-14	7.367	450	J
22		Unknown-15	8.236	7100	J
23	84-65-1	9,10-Anthracenedione	8.330	2700	NJ
24		Unknown-16	8.464	53000	J
25		Unknown-17	9.189	3800	J
26	6765-39-5	1-Heptadecene	9.965	3200	NJ
27		Unknown-18	11.859	11000	J
28	83-46-5	.beta.-Sitosterol	14.498	8400	NJ
29	1000210-86-9	17-(1,5-Dimethylhexyl)-10,13	15.005	18000	NJ
30		Unknown-19	15.616	13000	J
	E96679[2]	Total Alkanes	N/A	10000	J

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30S1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-13A

Sample wt/vol: 30.6 (g/mL) G Lab File ID: S4E8687.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 29 Decanted: (Y/N) N Date Received: 11/03/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/13/2011

GPC Cleanup:(Y/N) Y pH: 8.8 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
100-52-7	Benzaldehyde	230	U
108-95-2	Phenol	230	U
111-44-4	Bis(2-chloroethyl)ether	230	U
95-57-8	2-Chlorophenol	230	U
95-48-7	2-Methylphenol	230	U
108-60-1	2,2´-Oxybis(1-chloropropane)	230	U
98-86-2	Acetophenone	230	U
106-44-5	4-Methylphenol	230	U
621-64-7	N-Nitroso-di-n-propylamine	230	U
67-72-1	Hexachloroethane	230	U
98-95-3	Nitrobenzene	230	U
78-59-1	Isophorone	230	U
88-75-5	2-Nitrophenol	230	U
105-67-9	2,4-Dimethylphenol	230	U
111-91-1	Bis(2-chloroethoxy)methane	230	U
120-83-2	2,4-Dichlorophenol	230	U
91-20-3	Naphthalene	230	U
106-47-8	4-Chloroaniline	230	U
87-68-3	Hexachlorobutadiene	230	U
105-60-2	Caprolactam	230	U
59-50-7	4-Chloro-3-methylphenol	230	U
91-57-6	2-Methylnaphthalene	230	U
77-47-4	Hexachlorocyclopentadiene	230	U
88-06-2	2,4,6-Trichlorophenol	230	U
95-95-4	2,4,5-Trichlorophenol	230	U
92-52-4	1,1´-Biphenyl	230	U
91-58-7	2-Chloronaphthalene	230	U
88-74-4	2-Nitroaniline	450	U
131-11-3	Dimethylphthalate	230	U
606-20-2	2,6-Dinitrotoluene	230	U
208-96-8	Acenaphthylene	230	U
99-09-2	3-Nitroaniline	450	U
83-32-9	Acenaphthene	230	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30S1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-13A

Sample wt/vol: 30.6 (g/mL) G Lab File ID: S4E8687.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 29 Decanted: (Y/N) N Date Received: 11/03/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/13/2011

GPC Cleanup:(Y/N) Y pH: 8.8 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
51-28-5	2,4-Dinitrophenol	450	U
100-02-7	4-Nitrophenol	450	U
132-64-9	Dibenzofuran	230	U
121-14-2	2,4-Dinitrotoluene	230	U
84-66-2	Diethylphthalate	230	U
86-73-7	Fluorene	230	U
7005-72-3	4-Chlorophenyl-phenylether	230	U
100-01-6	4-Nitroaniline	450	U
534-52-1	4,6-Dinitro-2-methylphenol	450	U
86-30-6	N-Nitrosodiphenylamine (1)	230	U
95-94-3	1,2,4,5-Tetrachlorobenzene	230	U
101-55-3	4-Bromophenyl-phenylether	230	U
118-74-1	Hexachlorobenzene	230	U
1912-24-9	Atrazine	230	U
87-86-5	Pentachlorophenol	450	U
85-01-8	Phenanthrene	230	U
120-12-7	Anthracene	230	U
86-74-8	Carbazole	230	U
84-74-2	Di-n-butylphthalate	230	U
206-44-0	Fluoranthene	230	U
129-00-0	Pyrene	230	U
85-68-7	Butylbenzylphthalate	230	U
91-94-1	3,3´-Dichlorobenzidine	230	U
56-55-3	Benzo(a)anthracene	230	U
218-01-9	Chrysene	230	U
117-81-7	Bis(2-ethylhexyl)phthalate	230	U
117-84-0	Di-n-octylphthalate	230	U
205-99-2	Benzo(b)fluoranthene	230	U
207-08-9	Benzo(k)fluoranthene	230	U
50-32-8	Benzo(a)pyrene	230	U
193-39-5	Indeno(1,2,3-cd)pyrene	230	U
53-70-3	Dibenzo(a,h)anthracene	230	U
191-24-2	Benzo(g,h,i)perylene	230	U
58-90-2	2,3,4,6-Tetrachlorophenol	230	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30S1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-13A

Sample wt/vol: 30.6 (g/mL) G Lab File ID: S4E8687.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 29 Decanted: (Y/N) N Date Received: 11/03/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/13/2011

GPC Cleanup: (Y/N) Y pH: 8.8 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	2.875	190	J
02		Unknown-02	3.009	120	J
03		Unknown-03	3.154	110	J
04		Unknown-04	3.910	100	J
05		Unknown-05	4.117	280	J
06	464-49-3	Bicyclo[2.2.1]heptan-2-one,	4.200	420	NJ
07		Unknown-06	4.345	140	J
08		Unknown-07	5.017	120	J
09	4630-07-3	Naphthalene, 1,2,3,5,6,7,8,8	5.742	280	NJ
10	483-77-2	Naphthalene, 1,2,3,4-tetrahy	6.239	1100	NJ
11		Unknown-08	8.288	1400	J
12		Unknown-09	8.402	2700	J
13		Unknown-10	8.485	7200	J
14	6566-19-4	10,18-Bisnorabieta-5,7,9(10)	8.795	6000	NJ
15		Unknown-11	8.837	120	J
16	483-65-8	Phenanthrene, 1-methyl-7-(1-	9.271	14000	NJ
17		Unknown-12	9.302	800	J
18	83-47-6	.gamma.-Sitosterol	14.467	2000	NJ
19		Unknown-13	14.912	1900	J
20		Unknown-14	15.792	2300	J
	E96679[2]	Total Alkanes	N/A		

[2]EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30S2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-14A

Sample wt/vol: 30.5 (g/mL) G Lab File ID: S4E8713.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 72 Decanted: (Y/N) N Date Received: 11/03/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/14/2011

GPC Cleanup:(Y/N) Y pH: 8.2 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
100-52-7	Benzaldehyde	610	U
108-95-2	Phenol	610	U
111-44-4	Bis(2-chloroethyl)ether	610	U
95-57-8	2-Chlorophenol	610	U
95-48-7	2-Methylphenol	610	U
108-60-1	2,2´-Oxybis(1-chloropropane)	610	U
98-86-2	Acetophenone	510	J
106-44-5	4-Methylphenol	1200	
621-64-7	N-Nitroso-di-n-propylamine	610	U
67-72-1	Hexachloroethane	610	U
98-95-3	Nitrobenzene	610	U
78-59-1	Isophorone	610	U
88-75-5	2-Nitrophenol	610	U
105-67-9	2,4-Dimethylphenol	610	U
111-91-1	Bis(2-chloroethoxy)methane	610	U
120-83-2	2,4-Dichlorophenol	610	U
91-20-3	Naphthalene	680	
106-47-8	4-Chloroaniline	610	U
87-68-3	Hexachlorobutadiene	610	U
105-60-2	Caprolactam	610	U
59-50-7	4-Chloro-3-methylphenol	610	U
91-57-6	2-Methylnaphthalene	160	J
77-47-4	Hexachlorocyclopentadiene	610	U
88-06-2	2,4,6-Trichlorophenol	610	U
95-95-4	2,4,5-Trichlorophenol	610	U
92-52-4	1,1´-Biphenyl	610	U
91-58-7	2-Chloronaphthalene	610	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	610	U
606-20-2	2,6-Dinitrotoluene	610	U
208-96-8	Acenaphthylene	300	J
99-09-2	3-Nitroaniline	1200	U
83-32-9	Acenaphthene	610	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30S2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-14A

Sample wt/vol: 30.5 (g/mL) G Lab File ID: S4E8713.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 72 Decanted: (Y/N) N Date Received: 11/03/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/14/2011

GPC Cleanup:(Y/N) Y pH: 8.2 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
51-28-5	2,4-Dinitrophenol	1200	U
100-02-7	4-Nitrophenol	1200	U
132-64-9	Dibenzofuran	610	U
121-14-2	2,4-Dinitrotoluene	610	U
84-66-2	Diethylphthalate	610	U
86-73-7	Fluorene	190	J
7005-72-3	4-Chlorophenyl-phenylether	610	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	N-Nitrosodiphenylamine (1)	610	U
95-94-3	1,2,4,5-Tetrachlorobenzene	610	U
101-55-3	4-Bromophenyl-phenylether	610	U
118-74-1	Hexachlorobenzene	610	U
1912-24-9	Atrazine	610	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	1400	
120-12-7	Anthracene	290	J
86-74-8	Carbazole	610	U
84-74-2	Di-n-butylphthalate	5900	B
206-44-0	Fluoranthene	3300	
129-00-0	Pyrene	1900	
85-68-7	Butylbenzylphthalate	610	U
91-94-1	3,3´-Dichlorobenzidine	610	U
56-55-3	Benzo(a)anthracene	610	U
218-01-9	Chrysene	610	U
117-81-7	Bis(2-ethylhexyl)phthalate	610	U
117-84-0	Di-n-octylphthalate	610	U
205-99-2	Benzo(b)fluoranthene	360	J
207-08-9	Benzo(k)fluoranthene	220	J
50-32-8	Benzo(a)pyrene	250	J
193-39-5	Indeno(1,2,3-cd)pyrene	610	U
53-70-3	Dibenzo(a,h)anthracene	610	U
191-24-2	Benzo(g,h,i)perylene	610	U
58-90-2	2,3,4,6-Tetrachlorophenol	610	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30S2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-14A

Sample wt/vol: 30.5 (g/mL) G Lab File ID: S4E8713.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 72 Decanted: (Y/N) N Date Received: 11/03/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/14/2011

GPC Cleanup: (Y/N) Y pH: 8.2 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	3.154	1000	J
02	99-83-2	.alpha.-Phellandrene	3.268	2100	NJ
03	527-84-4	Benzene, 1-methyl-2-(1-methy	3.372	3900	NJ
04	99-85-4	1,4-Cyclohexadiene, 1-methyl	3.434	2400	NJ
05		Unknown-02	4.914	3200	J
06	5989-08-2	Tricyclo[5.4.0.0(2,8)]undec-	5.349	1600	NJ
07		Unknown-03	5.463	1200	J
08	88-84-6	Azulene, 1,2,3,4,5,6,7,8-oct	5.504	2300	NJ
09		Unknown-04	5.576	1200	J
10	475-20-7	1,4-Methanoazulene, decahydr	5.721	42000	NJ
11	30021-74-0	Naphthalene, 1,2,3,4,4a,5,6,	5.970	2100	NJ
12	30021-74-0	Naphthalene, 1,2,3,4,4a,5,6,	6.177	3000	NJ
13		Unknown-05	6.674	1700	J
14		Unknown-06	6.953	3300	J
15		Unknown-07	7.336	2300	J
16		Unknown-08	7.388	1500	J
17	92-91-1	Ethanone, 1-[1,1'-biphenyl]-	7.688	1600	NJ
18		Unknown-09	7.895	5300	J
19		Unknown-10	8.019	6300	J
20		Unknown-11	8.257	84000	J
21		Unknown-12	8.619	1100000	J
22		Unknown-13	8.650	15000	J
23		Unknown-14	8.692	38000	J
24		Unknown-15	8.951	15000	J
25		Unknown-16	9.137	19000	J
26		Unknown-17	9.251	14000	J
27		Unknown-18	9.375	7200	J
28	1000214-16-4	Stigmastan-3,5-diene	12.873	17000	NJ
29	1000210-86-9	17-(1,5-Dimethylhexyl)-10,13	15.399	73000	NJ
30	1058-61-3	Stigmast-4-en-3-one	16.299	69000	NJ
	E96679[2]	Total Alkanes	N/A	210000	J

[2]EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30S3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-15A

Sample wt/vol: 30.1 (g/mL) G Lab File ID: S4E8689.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 31 Decanted: (Y/N) N Date Received: 11/03/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/13/2011

GPC Cleanup:(Y/N) Y pH: 9.4 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
100-52-7	Benzaldehyde	250	U
108-95-2	Phenol	250	U
111-44-4	Bis(2-chloroethyl)ether	250	U
95-57-8	2-Chlorophenol	250	U
95-48-7	2-Methylphenol	250	U
108-60-1	2,2´-Oxybis(1-chloropropane)	250	U
98-86-2	Acetophenone	130	J
106-44-5	4-Methylphenol	54	J
621-64-7	N-Nitroso-di-n-propylamine	250	U
67-72-1	Hexachloroethane	250	U
98-95-3	Nitrobenzene	250	U
78-59-1	Isophorone	250	U
88-75-5	2-Nitrophenol	250	U
105-67-9	2,4-Dimethylphenol	250	U
111-91-1	Bis(2-chloroethoxy)methane	250	U
120-83-2	2,4-Dichlorophenol	250	U
91-20-3	Naphthalene	250	U
106-47-8	4-Chloroaniline	250	U
87-68-3	Hexachlorobutadiene	250	U
105-60-2	Caprolactam	250	U
59-50-7	4-Chloro-3-methylphenol	250	U
91-57-6	2-Methylnaphthalene	250	U
77-47-4	Hexachlorocyclopentadiene	250	U
88-06-2	2,4,6-Trichlorophenol	250	U
95-95-4	2,4,5-Trichlorophenol	250	U
92-52-4	1,1´-Biphenyl	250	U
91-58-7	2-Chloronaphthalene	250	U
88-74-4	2-Nitroaniline	480	U
131-11-3	Dimethylphthalate	250	U
606-20-2	2,6-Dinitrotoluene	250	U
208-96-8	Acenaphthylene	250	U
99-09-2	3-Nitroaniline	480	U
83-32-9	Acenaphthene	250	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30S3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-15A

Sample wt/vol: 30.1 (g/mL) G Lab File ID: S4E8689.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 31 Decanted: (Y/N) N Date Received: 11/03/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/13/2011

GPC Cleanup:(Y/N) Y pH: 9.4 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
51-28-5	2,4-Dinitrophenol	480	U
100-02-7	4-Nitrophenol	480	U
132-64-9	Dibenzofuran	250	U
121-14-2	2,4-Dinitrotoluene	250	U
84-66-2	Diethylphthalate	250	U
86-73-7	Fluorene	250	U
7005-72-3	4-Chlorophenyl-phenylether	250	U
100-01-6	4-Nitroaniline	480	U
534-52-1	4,6-Dinitro-2-methylphenol	480	U
86-30-6	N-Nitrosodiphenylamine (1)	250	U
95-94-3	1,2,4,5-Tetrachlorobenzene	250	U
101-55-3	4-Bromophenyl-phenylether	250	U
118-74-1	Hexachlorobenzene	250	U
1912-24-9	Atrazine	250	U
87-86-5	Pentachlorophenol	480	U
85-01-8	Phenanthrene	250	U
120-12-7	Anthracene	250	U
86-74-8	Carbazole	250	U
84-74-2	Di-n-butylphthalate	200	BJ
206-44-0	Fluoranthene	250	U
129-00-0	Pyrene	71	J
85-68-7	Butylbenzylphthalate	250	U
91-94-1	3,3´-Dichlorobenzidine	250	U
56-55-3	Benzo(a)anthracene	250	U
218-01-9	Chrysene	250	U
117-81-7	Bis(2-ethylhexyl)phthalate	12000	E
117-84-0	Di-n-octylphthalate	250	U
205-99-2	Benzo(b)fluoranthene	250	U
207-08-9	Benzo(k)fluoranthene	250	U
50-32-8	Benzo(a)pyrene	250	U
193-39-5	Indeno(1,2,3-cd)pyrene	250	U
53-70-3	Dibenzo(a,h)anthracene	250	U
191-24-2	Benzo(g,h,i)perylene	250	U
58-90-2	2,3,4,6-Tetrachlorophenol	250	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30S3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-15A

Sample wt/vol: 30.1 (g/mL) G Lab File ID: S4E8689.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 31 Decanted: (Y/N) N Date Received: 11/03/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/13/2011

GPC Cleanup: (Y/N) Y pH: 9.4 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	2.823	100	J
02		Unknown-02	3.010	140	J
03	7785-26-4	1S-.alpha.-Pinene	3.330	200	NJ
04		Unknown-03	3.403	150	J
05		Unknown-04	3.444	190	J
06		Unknown-05	3.910	100	J
07		Unknown-06	4.117	180	J
08		Unknown-07	4.158	110	J
09		Unknown-08	4.334	200	J
10		Unknown-09	4.386	190	J
11		Unknown-10	4.686	150	J
12		Unknown-11	4.790	180	J
13		Unknown-12	4.955	430	J
14		Unknown-13	5.017	120	J
15		Unknown-14	5.494	120	J
16		Unknown-15	5.690	530	J
17	489-39-4	1H-Cycloprop[e]azulene, deca	5.742	970	NJ
18		Unknown-16	6.715	410	J
19	230-17-1	Benzo[c]cinnoline	8.361	1400	NJ
20		Unknown-17	8.454	770	J
21		Unknown-18	8.764	1200	J
22		Unknown-19	9.416	1900	J
	E96679€ [2]	Total Alkanes	N/A	79000	J

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30S3DL

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-15ADL

Sample wt/vol: 30.1 (g/mL) G Lab File ID: S4E8696.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 31 Decanted: (Y/N) N Date Received: 11/03/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/14/2011

GPC Cleanup:(Y/N) Y pH: 9.4 Dilution Factor: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
100-52-7	Benzaldehyde	1200	U
108-95-2	Phenol	1200	U
111-44-4	Bis(2-chloroethyl)ether	1200	U
95-57-8	2-Chlorophenol	1200	U
95-48-7	2-Methylphenol	1200	U
108-60-1	2,2´-Oxybis(1-chloropropane)	1200	U
98-86-2	Acetophenone	1200	U
106-44-5	4-Methylphenol	1200	U
621-64-7	N-Nitroso-di-n-propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
111-91-1	Bis(2-chloroethoxy)methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
105-60-2	Caprolactam	1200	U
59-50-7	4-Chloro-3-methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
95-95-4	2,4,5-Trichlorophenol	1200	U
92-52-4	1,1´-Biphenyl	1200	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	2400	U
131-11-3	Dimethylphthalate	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U
208-96-8	Acenaphthylene	1200	U
99-09-2	3-Nitroaniline	2400	U
83-32-9	Acenaphthene	1200	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30S3DL

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-15ADL

Sample wt/vol: 30.1 (g/mL) G Lab File ID: S4E8696.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 31 Decanted: (Y/N) N Date Received: 11/03/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/14/2011

GPC Cleanup:(Y/N) Y pH: 9.4 Dilution Factor: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
51-28-5	2,4-Dinitrophenol	2400	U
100-02-7	4-Nitrophenol	2400	U
132-64-9	Dibenzofuran	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
86-73-7	Fluorene	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
100-01-6	4-Nitroaniline	2400	U
534-52-1	4,6-Dinitro-2-methylphenol	2400	U
86-30-6	N-Nitrosodiphenylamine (1)	1200	U
95-94-3	1,2,4,5-Tetrachlorobenzene	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
1912-24-9	Atrazine	1200	U
87-86-5	Pentachlorophenol	2400	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
86-74-8	Carbazole	1200	U
84-74-2	Di-n-butylphthalate	1200	U
206-44-0	Fluoranthene	1200	U
129-00-0	Pyrene	1200	U
85-68-7	Butylbenzylphthalate	1200	U
91-94-1	3,3´-Dichlorobenzidine	1200	U
56-55-3	Benzo(a)anthracene	1200	U
218-01-9	Chrysene	1200	U
117-81-7	Bis(2-ethylhexyl)phthalate	10000	D
117-84-0	Di-n-octylphthalate	1200	U
205-99-2	Benzo(b)fluoranthene	1200	U
207-08-9	Benzo(k)fluoranthene	1200	U
50-32-8	Benzo(a)pyrene	1200	U
193-39-5	Indeno(1,2,3-cd)pyrene	1200	U
53-70-3	Dibenzo(a,h)anthracene	1200	U
191-24-2	Benzo(g,h,i)perylene	1200	U
58-90-2	2,3,4,6-Tetrachlorophenol	1200	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30S3DL

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-15ADL

Sample wt/vol: 30.1 (g/mL) G Lab File ID: S4E8696.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 31 Decanted: (Y/N) N Date Received: 11/03/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/14/2011

GPC Cleanup: (Y/N) Y pH: 9.4 Dilution Factor: 5.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	4630-07-3	Naphthalene, 1,2,3,5,6,7,8,8	5.669	1300	DNJ
02		Unknown-01	5.949	820	DJ
03		Unknown-02	6.653	560	DJ
04	86-34-0	Phensuximide	7.253	490	DNJ
05		Unknown-03	7.336	830	DJ
06		Unknown-04	7.760	630	DJ
07		Unknown-05	8.019	600	DJ
08		Unknown-06	8.174	1500	DJ
09	84-65-1	9,10-Anthracenedione	8.278	1400	DNJ
10		Unknown-07	8.381	830	DJ
11		Unknown-08	8.495	990	DJ
12		Unknown-09	8.536	1200	DJ
13		Unknown-10	8.692	1600	DJ
14		Unknown-11	9.023	1000	DJ
15		Unknown-12	9.137	790	DJ
16		Unknown-13	9.333	2600	DJ
17		Unknown-14	9.540	2000	DJ
18		Unknown-15	9.665	610	DJ
19		Unknown-16	9.872	1300	DJ
20		Unknown-17	10.275	1200	DJ
21		Unknown-18	10.296	1400	DJ
22		Unknown-19	10.627	660	DJ
23	544-77-4	Hexadecane, 1-iodo-	11.321	3800	DNJ
24		Unknown-20	13.546	710	DJ
25		Unknown-21	14.229	1900	DJ
	E96679[2]	Total Alkanes	N/A	70000	J

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30S6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-16A

Sample wt/vol: 30.3 (g/mL) G Lab File ID: S4E8707.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 74 Decanted: (Y/N) N Date Received: 11/03/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/14/2011

GPC Cleanup:(Y/N) Y pH: 8.4 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
100-52-7	Benzaldehyde	650	U
108-95-2	Phenol	170	J
111-44-4	Bis(2-chloroethyl)ether	650	U
95-57-8	2-Chlorophenol	650	U
95-48-7	2-Methylphenol	650	U
108-60-1	2,2´-Oxybis(1-chloropropane)	650	U
98-86-2	Acetophenone	400	J
106-44-5	4-Methylphenol	1100	
621-64-7	N-Nitroso-di-n-propylamine	650	U
67-72-1	Hexachloroethane	650	U
98-95-3	Nitrobenzene	650	U
78-59-1	Isophorone	650	U
88-75-5	2-Nitrophenol	650	U
105-67-9	2,4-Dimethylphenol	650	U
111-91-1	Bis(2-chloroethoxy)methane	650	U
120-83-2	2,4-Dichlorophenol	650	U
91-20-3	Naphthalene	500	J
106-47-8	4-Chloroaniline	650	U
87-68-3	Hexachlorobutadiene	650	U
105-60-2	Caprolactam	650	U
59-50-7	4-Chloro-3-methylphenol	650	U
91-57-6	2-Methylnaphthalene	650	U
77-47-4	Hexachlorocyclopentadiene	650	U
88-06-2	2,4,6-Trichlorophenol	650	U
95-95-4	2,4,5-Trichlorophenol	650	U
92-52-4	1,1´-Biphenyl	650	U
91-58-7	2-Chloronaphthalene	650	U
88-74-4	2-Nitroaniline	1300	U
131-11-3	Dimethylphthalate	650	U
606-20-2	2,6-Dinitrotoluene	650	U
208-96-8	Acenaphthylene	250	J
99-09-2	3-Nitroaniline	1300	U
83-32-9	Acenaphthene	650	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30S6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-16A

Sample wt/vol: 30.3 (g/mL) G Lab File ID: S4E8707.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 74 Decanted: (Y/N) N Date Received: 11/03/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/14/2011

GPC Cleanup:(Y/N) Y pH: 8.4 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
51-28-5	2,4-Dinitrophenol	1300	U
100-02-7	4-Nitrophenol	1300	U
132-64-9	Dibenzofuran	650	U
121-14-2	2,4-Dinitrotoluene	650	U
84-66-2	Diethylphthalate	650	U
86-73-7	Fluorene	650	U
7005-72-3	4-Chlorophenyl-phenylether	650	U
100-01-6	4-Nitroaniline	1300	U
534-52-1	4,6-Dinitro-2-methylphenol	1300	U
86-30-6	N-Nitrosodiphenylamine (1)	650	U
95-94-3	1,2,4,5-Tetrachlorobenzene	650	U
101-55-3	4-Bromophenyl-phenylether	650	U
118-74-1	Hexachlorobenzene	650	U
1912-24-9	Atrazine	650	U
87-86-5	Pentachlorophenol	1300	U
85-01-8	Phenanthrene	1100	
120-12-7	Anthracene	650	U
86-74-8	Carbazole	650	U
84-74-2	Di-n-butylphthalate	650	U
206-44-0	Fluoranthene	650	U
129-00-0	Pyrene	650	U
85-68-7	Butylbenzylphthalate	650	U
91-94-1	3,3´-Dichlorobenzidine	650	U
56-55-3	Benzo(a)anthracene	650	U
218-01-9	Chrysene	650	U
117-81-7	Bis(2-ethylhexyl)phthalate	3800	
117-84-0	Di-n-octylphthalate	650	U
205-99-2	Benzo(b)fluoranthene	210	J
207-08-9	Benzo(k)fluoranthene	150	J
50-32-8	Benzo(a)pyrene	160	J
193-39-5	Indeno(1,2,3-cd)pyrene	650	U
53-70-3	Dibenzo(a,h)anthracene	650	U
191-24-2	Benzo(g,h,i)perylene	650	U
58-90-2	2,3,4,6-Tetrachlorophenol	650	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: H30S6

Lab Name: MITKEM LABORATORIES | Contract: EP-W-11-033

Lab Code: MITKEM | Case No.: 41926 | Mod. Ref No.: | SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL | Lab Sample ID: K2199-16A

Sample wt/vol: 30.3 (g/mL) G | Lab File ID: S4E8707.D

Level: (TRACE or LOW/MED) LOW | Extraction: (Type) SONC

% Moisture: 74 | Decanted: (Y/N) N | Date Received: 11/03/2011

Concentrated Extract Volume: 500 (uL) | Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) | GPC Factor: 2.00 | Date Analyzed: 11/14/2011

GPC Cleanup: (Y/N) Y | pH: 8.4 | Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	99-87-6	Benzene, 1-methyl-4-(1-methy	3.372	3600	NJ
02		Unknown-01	3.423	1400	J
03	104-46-1	Benzene, 1-methoxy-4-(1-prop	4.914	2400	NJ
04		Unknown-02	5.338	3700	J
05		Unknown-03	5.452	3900	J
06	88-84-6	Azulene, 1,2,3,4,5,6,7,8-oct	5.504	8700	NJ
07		Unknown-04	5.576	3800	J
08	1000156-10-7	Epizonarene	5.618	3900	NJ
09	475-20-7	1,4-Methanoazulene, decahydr	5.711	160000	NJ
10	30021-74-0	Naphthalene, 1,2,3,4,4a,5,6,	5.970	6000	NJ
11	150320-52-8	Bicyclo[4.4.0]dec-1-ene, 2-i	6.083	9800	NJ
12	483-76-1	Naphthalene, 1,2,3,5,6,8a-he	6.177	6400	NJ
13		Unknown-05	6.684	8200	J
14	489-84-9	Azulene, 1,4-dimethyl-7-(1-m	6.953	13000	NJ
15		Unknown-06	7.315	6300	J
16		Unknown-07	7.377	6600	J
17		Unknown-08	7.884	14000	J
18		Unknown-09	8.009	27000	J
19		Unknown-10	8.071	220000	J
20		Unknown-11	8.247	280000	J
21		Unknown-12	8.588	5000000	J
22		Unknown-13	8.619	77000	J
23		Unknown-14	8.661	91000	J
24		Unknown-15	8.847	1300000	J
25		Unknown-16	8.909	96000	J
26		Unknown-17	8.971	98000	J
27		Unknown-18	9.116	92000	J
28		Unknown-19	9.220	51000	J
29		Unknown-20	9.509	25000	J
30		Unknown-21	12.790	18000	J
	E96679[2]	Total Alkanes	N/A	480000	J

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30T6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-02A

Sample wt/vol: 30.4 (g/mL) G Lab File ID: S2H5280.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 22 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 10000 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 0.10 Date Analyzed: 11/11/2011

GPC Cleanup:(Y/N) Y pH: 7.9 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
100-52-7	Benzaldehyde	220	U
108-95-2	Phenol	220	U
111-44-4	Bis(2-chloroethyl)ether	220	U
95-57-8	2-Chlorophenol	220	U
95-48-7	2-Methylphenol	220	U
108-60-1	2,2´-Oxybis(1-chloropropane)	220	U
98-86-2	Acetophenone	220	U
106-44-5	4-Methylphenol	220	U
621-64-7	N-Nitroso-di-n-propylamine	220	U
67-72-1	Hexachloroethane	220	U
98-95-3	Nitrobenzene	220	U
78-59-1	Isophorone	220	U
88-75-5	2-Nitrophenol	220	U
105-67-9	2,4-Dimethylphenol	220	U
111-91-1	Bis(2-chloroethoxy)methane	220	U
120-83-2	2,4-Dichlorophenol	220	U
91-20-3	Naphthalene	220	U
106-47-8	4-Chloroaniline	220	U
87-68-3	Hexachlorobutadiene	220	U
105-60-2	Caprolactam	220	U
59-50-7	4-Chloro-3-methylphenol	220	U
91-57-6	2-Methylnaphthalene	220	U
77-47-4	Hexachlorocyclopentadiene	220	U
88-06-2	2,4,6-Trichlorophenol	220	U
95-95-4	2,4,5-Trichlorophenol	220	U
92-52-4	1,1´-Biphenyl	220	U
91-58-7	2-Chloronaphthalene	220	U
88-74-4	2-Nitroaniline	420	U
131-11-3	Dimethylphthalate	220	U
606-20-2	2,6-Dinitrotoluene	220	U
208-96-8	Acenaphthylene	220	U
99-09-2	3-Nitroaniline	420	U
83-32-9	Acenaphthene	220	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30T6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-02A

Sample wt/vol: 30.4 (g/mL) G Lab File ID: S2H5280.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 22 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 10000 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 0.10 Date Analyzed: 11/11/2011

GPC Cleanup:(Y/N) Y pH: 7.9 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
51-28-5	2,4-Dinitrophenol	420	U
100-02-7	4-Nitrophenol	420	U
132-64-9	Dibenzofuran	220	U
121-14-2	2,4-Dinitrotoluene	220	U
84-66-2	Diethylphthalate	220	U
86-73-7	Fluorene	220	U
7005-72-3	4-Chlorophenyl-phenylether	220	U
100-01-6	4-Nitroaniline	420	U
534-52-1	4,6-Dinitro-2-methylphenol	420	U
86-30-6	N-Nitrosodiphenylamine (1)	220	U
95-94-3	1,2,4,5-Tetrachlorobenzene	220	U
101-55-3	4-Bromophenyl-phenylether	220	U
118-74-1	Hexachlorobenzene	220	U
1912-24-9	Atrazine	220	U
87-86-5	Pentachlorophenol	420	U
85-01-8	Phenanthrene	220	U
120-12-7	Anthracene	220	U
86-74-8	Carbazole	220	U
84-74-2	Di-n-butylphthalate	220	U
206-44-0	Fluoranthene	220	U
129-00-0	Pyrene	220	U
85-68-7	Butylbenzylphthalate	220	U
91-94-1	3,3´-Dichlorobenzidine	220	U
56-55-3	Benzo(a)anthracene	220	U
218-01-9	Chrysene	220	U
117-81-7	Bis(2-ethylhexyl)phthalate	90	J
117-84-0	Di-n-octylphthalate	220	U
205-99-2	Benzo(b)fluoranthene	220	U
207-08-9	Benzo(k)fluoranthene	220	U
50-32-8	Benzo(a)pyrene	220	U
193-39-5	Indeno(1,2,3-cd)pyrene	220	U
53-70-3	Dibenzo(a,h)anthracene	220	U
191-24-2	Benzo(g,h,i)perylene	220	U
58-90-2	2,3,4,6-Tetrachlorophenol	220	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30T6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-02A

Sample wt/vol: 30.4 (g/mL) G Lab File ID: S2H5280.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 22 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 10000 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 0.10 Date Analyzed: 11/11/2011

GPC Cleanup: (Y/N) Y pH: 7.9 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	5469-16-9	2(3H)-Furanone, dihydro-4-hy	4.498	400	NJ
02		Unknown-01	4.691	280	J
03		Unknown-02	5.055	88	J
04		Unknown-03	5.216	380	J
05		Unknown-04	5.313	100	J
06		Unknown-05	7.608	98	J
07	57-10-3	n-Hexadecanoic acid	7.919	200	NJ
08		Unknown-06	9.205	120	J
09		Unknown-07	10.439	420	J
10		Unknown-08	10.535	200	J
	E96679[2]	Total Alkanes	N/A		

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30T7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-03A

Sample wt/vol: 30.2 (g/mL) G Lab File ID: S2H5286.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 24 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 10000 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 0.10 Date Analyzed: 11/11/2011

GPC Cleanup:(Y/N) Y pH: 7.7 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
100-52-7	Benzaldehyde	220	U
108-95-2	Phenol	220	U
111-44-4	Bis(2-chloroethyl)ether	220	U
95-57-8	2-Chlorophenol	220	U
95-48-7	2-Methylphenol	220	U
108-60-1	2,2´-Oxybis(1-chloropropane)	220	U
98-86-2	Acetophenone	220	U
106-44-5	4-Methylphenol	220	U
621-64-7	N-Nitroso-di-n-propylamine	220	U
67-72-1	Hexachloroethane	220	U
98-95-3	Nitrobenzene	220	U
78-59-1	Isophorone	220	U
88-75-5	2-Nitrophenol	220	U
105-67-9	2,4-Dimethylphenol	220	U
111-91-1	Bis(2-chloroethoxy)methane	220	U
120-83-2	2,4-Dichlorophenol	220	U
91-20-3	Naphthalene	220	U
106-47-8	4-Chloroaniline	220	U
87-68-3	Hexachlorobutadiene	220	U
105-60-2	Caprolactam	220	U
59-50-7	4-Chloro-3-methylphenol	220	U
91-57-6	2-Methylnaphthalene	220	U
77-47-4	Hexachlorocyclopentadiene	220	U
88-06-2	2,4,6-Trichlorophenol	220	U
95-95-4	2,4,5-Trichlorophenol	220	U
92-52-4	1,1´-Biphenyl	220	U
91-58-7	2-Chloronaphthalene	220	U
88-74-4	2-Nitroaniline	430	U
131-11-3	Dimethylphthalate	220	U
606-20-2	2,6-Dinitrotoluene	220	U
208-96-8	Acenaphthylene	350	
99-09-2	3-Nitroaniline	430	U
83-32-9	Acenaphthene	290	

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30T7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-03A

Sample wt/vol: 30.2 (g/mL) G Lab File ID: S2H5286.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 24 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 10000 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 0.10 Date Analyzed: 11/11/2011

GPC Cleanup:(Y/N) Y pH: 7.7 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
51-28-5	2,4-Dinitrophenol	430	U
100-02-7	4-Nitrophenol	430	U
132-64-9	Dibenzofuran	220	U
121-14-2	2,4-Dinitrotoluene	220	U
84-66-2	Diethylphthalate	220	U
86-73-7	Fluorene	220	U
7005-72-3	4-Chlorophenyl-phenylether	220	U
100-01-6	4-Nitroaniline	430	U
534-52-1	4,6-Dinitro-2-methylphenol	430	U
86-30-6	N-Nitrosodiphenylamine (1)	220	U
95-94-3	1,2,4,5-Tetrachlorobenzene	220	U
101-55-3	4-Bromophenyl-phenylether	220	U
118-74-1	Hexachlorobenzene	220	U
1912-24-9	Atrazine	220	U
87-86-5	Pentachlorophenol	430	U
85-01-8	Phenanthrene	220	U
120-12-7	Anthracene	220	U
86-74-8	Carbazole	220	U
84-74-2	Di-n-butylphthalate	220	U
206-44-0	Fluoranthene	220	U
129-00-0	Pyrene	220	U
85-68-7	Butylbenzylphthalate	220	U
91-94-1	3,3´-Dichlorobenzidine	220	U
56-55-3	Benzo(a)anthracene	140	J
218-01-9	Chrysene	98	J
117-81-7	Bis(2-ethylhexyl)phthalate	220	U
117-84-0	Di-n-octylphthalate	220	U
205-99-2	Benzo(b)fluoranthene	62	J
207-08-9	Benzo(k)fluoranthene	220	U
50-32-8	Benzo(a)pyrene	220	U
193-39-5	Indeno(1,2,3-cd)pyrene	220	U
53-70-3	Dibenzo(a,h)anthracene	220	U
191-24-2	Benzo(g,h,i)perylene	220	U
58-90-2	2,3,4,6-Tetrachlorophenol	220	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30T7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-03A

Sample wt/vol: 30.2 (g/mL) G Lab File ID: S2H5286.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 24 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 10000 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 0.10 Date Analyzed: 11/11/2011

GPC Cleanup: (Y/N) Y pH: 7.7 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	471-84-1	Bicyclo[2.2.1]heptane, 7,7-d	3.264	93	NJ
02		Unknown-01	4.486	420	J
03		Unknown-02	4.690	310	J
04		Unknown-03	5.215	470	J
05		Unknown-04	5.312	100	J
06		Unknown-05	7.607	88	J
07	57-10-3	n-Hexadecanoic acid	7.918	280	NJ
08		Unknown-06	8.561	89	J
09		Unknown-07	9.194	120	J
10	25732-74-5	Cyclopenta(cd)pyrene, 3,4-di	9.751	250	NJ
11		Unknown-08	10.395	600	J
	E96679€ [2]	Total Alkanes	N/A		

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30T8

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-17A

Sample wt/vol: 30.3 (g/mL) G Lab File ID: S4E8708.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 43 Decanted: (Y/N) N Date Received: 11/03/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/14/2011

GPC Cleanup:(Y/N) Y pH: 7.9 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
100-52-7	Benzaldehyde	290	U
108-95-2	Phenol	290	U
111-44-4	Bis(2-chloroethyl)ether	290	U
95-57-8	2-Chlorophenol	290	U
95-48-7	2-Methylphenol	290	U
108-60-1	2,2´-Oxybis(1-chloropropane)	290	U
98-86-2	Acetophenone	290	U
106-44-5	4-Methylphenol	290	U
621-64-7	N-Nitroso-di-n-propylamine	290	U
67-72-1	Hexachloroethane	290	U
98-95-3	Nitrobenzene	290	U
78-59-1	Isophorone	290	U
88-75-5	2-Nitrophenol	290	U
105-67-9	2,4-Dimethylphenol	290	U
111-91-1	Bis(2-chloroethoxy)methane	290	U
120-83-2	2,4-Dichlorophenol	290	U
91-20-3	Naphthalene	290	U
106-47-8	4-Chloroaniline	290	U
87-68-3	Hexachlorobutadiene	290	U
105-60-2	Caprolactam	290	U
59-50-7	4-Chloro-3-methylphenol	290	U
91-57-6	2-Methylnaphthalene	290	U
77-47-4	Hexachlorocyclopentadiene	290	U
88-06-2	2,4,6-Trichlorophenol	290	U
95-95-4	2,4,5-Trichlorophenol	290	U
92-52-4	1,1´-Biphenyl	290	U
91-58-7	2-Chloronaphthalene	290	U
88-74-4	2-Nitroaniline	570	U
131-11-3	Dimethylphthalate	290	U
606-20-2	2,6-Dinitrotoluene	290	U
208-96-8	Acenaphthylene	290	U
99-09-2	3-Nitroaniline	570	U
83-32-9	Acenaphthene	290	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30T8

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-17A

Sample wt/vol: 30.3 (g/mL) G Lab File ID: S4E8708.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 43 Decanted: (Y/N) N Date Received: 11/03/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/14/2011

GPC Cleanup:(Y/N) Y pH: 7.9 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
51-28-5	2,4-Dinitrophenol	570	U
100-02-7	4-Nitrophenol	570	U
132-64-9	Dibenzofuran	290	U
121-14-2	2,4-Dinitrotoluene	290	U
84-66-2	Diethylphthalate	290	U
86-73-7	Fluorene	290	U
7005-72-3	4-Chlorophenyl-phenylether	290	U
100-01-6	4-Nitroaniline	570	U
534-52-1	4,6-Dinitro-2-methylphenol	570	U
86-30-6	N-Nitrosodiphenylamine (1)	290	U
95-94-3	1,2,4,5-Tetrachlorobenzene	290	U
101-55-3	4-Bromophenyl-phenylether	290	U
118-74-1	Hexachlorobenzene	290	U
1912-24-9	Atrazine	290	U
87-86-5	Pentachlorophenol	570	U
85-01-8	Phenanthrene	290	U
120-12-7	Anthracene	290	U
86-74-8	Carbazole	290	U
84-74-2	Di-n-butylphthalate	210	BJ
206-44-0	Fluoranthene	290	U
129-00-0	Pyrene	290	U
85-68-7	Butylbenzylphthalate	290	U
91-94-1	3,3´-Dichlorobenzidine	290	U
56-55-3	Benzo(a)anthracene	290	U
218-01-9	Chrysene	290	U
117-81-7	Bis(2-ethylhexyl)phthalate	560	
117-84-0	Di-n-octylphthalate	290	U
205-99-2	Benzo(b)fluoranthene	290	U
207-08-9	Benzo(k)fluoranthene	290	U
50-32-8	Benzo(a)pyrene	290	U
193-39-5	Indeno(1,2,3-cd)pyrene	290	U
53-70-3	Dibenzo(a,h)anthracene	290	U
191-24-2	Benzo(g,h,i)perylene	290	U
58-90-2	2,3,4,6-Tetrachlorophenol	290	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30T8

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-17A

Sample wt/vol: 30.3 (g/mL) G Lab File ID: S4E8708.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 43 Decanted: (Y/N) N Date Received: 11/03/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/14/2011

GPC Cleanup: (Y/N) Y pH: 7.9 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	7785-70-8	1R-.alpha.-Pinene	3.279	290	NJ
02	527-84-4	Benzene, 1-methyl-2-(1-methy	3.361	3800	NJ
03		Unknown-01	3.393	140	J
04		Unknown-02	3.424	270	J
05		Unknown-03	4.086	140	J
06		Unknown-04	4.293	190	J
07		Unknown-05	4.345	160	J
08		Unknown-06	4.873	210	J
09		Unknown-07	4.914	280	J
10		Unknown-08	5.452	170	J
11	17334-55-3	1H-Cyclopropa[a]naphthalene,	5.701	1100	NJ
12		Unknown-09	5.970	630	J
13	30021-74-0	Naphthalene, 1,2,3,4,4a,5,6,	6.166	530	NJ
14		Unknown-10	6.467	220	J
15		Unknown-11	6.932	600	J
16		Unknown-12	7.367	470	J
17		Unknown-13	8.216	1400	J
18		Unknown-14	8.236	2200	J
19	84-65-1	9,10-Anthracenedione	8.330	2100	NJ
20		Unknown-15	8.423	3100	J
21	1000197-14-1	4b,8-Dimethyl-2-isopropylphe	8.464	48000	NJ
22		Unknown-16	8.526	980	J
23		Unknown-17	9.189	2400	J
24		Unknown-18	12.625	3100	J
25	83-46-5	.beta.-Sitosterol	14.488	15000	NJ
26		Unknown-19	15.016	23000	J
27		Unknown-20	15.616	20000	J
	E96679€ [2]	Total Alkanes	N/A	27000	J

[2] EPA-designated Registry Number.

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Q5

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-04A

Sample wt/vol: 30.1 (g/mL) G Lab File ID: E2K8227F.D/E2K8227R.D

% Moisture: 56 Decanted: (Y/N) N Date Received: 10/29/2011

Extraction: (Type) SONC Date Extracted: 11/08/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/20/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 8.3 Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
12674-11-2	Aroclor-1016	74	U
11104-28-2	Aroclor-1221	74	U
11141-16-5	Aroclor-1232	74	U
53469-21-9	Aroclor-1242	74	U
12672-29-6	Aroclor-1248	74	U
11097-69-1	Aroclor-1254	74	U
11096-82-5	Aroclor-1260	74	U
37324-23-5	Aroclor-1262	74	U
11100-14-4	Aroclor-1268	74	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Q7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-05A

Sample wt/vol: 30.2 (g/mL) G Lab File ID: E2K8246F.D/E2K8246R.D

% Moisture: 68 Decanted: (Y/N) N Date Received: 10/29/2011

Extraction: (Type) SONC Date Extracted: 11/08/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/21/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 8.4 Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
12674-11-2	Aroclor-1016	100	U
11104-28-2	Aroclor-1221	100	U
11141-16-5	Aroclor-1232	100	U
53469-21-9	Aroclor-1242	100	U
12672-29-6	Aroclor-1248	100	U
11097-69-1	Aroclor-1254	100	U
11096-82-5	Aroclor-1260	100	U
37324-23-5	Aroclor-1262	100	U
11100-14-4	Aroclor-1268	100	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30R2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-06A

Sample wt/vol: 30.4 (g/mL) G Lab File ID: E2K8247F.D/E2K8247R.D

% Moisture: 31 Decanted: (Y/N) N Date Received: 10/29/2011

Extraction: (Type) SONC Date Extracted: 11/08/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/21/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 10.0 Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
12674-11-2	Aroclor-1016	47	U
11104-28-2	Aroclor-1221	47	U
11141-16-5	Aroclor-1232	47	U
53469-21-9	Aroclor-1242	47	U
12672-29-6	Aroclor-1248	47	U
11097-69-1	Aroclor-1254	47	U
11096-82-5	Aroclor-1260	47	U
37324-23-5	Aroclor-1262	47	U
11100-14-4	Aroclor-1268	47	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30R3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-07A

Sample wt/vol: 30.6 (g/mL) G Lab File ID: E2K8248F.D/E2K8248R.D

% Moisture: 63 Decanted: (Y/N) N Date Received: 10/29/2011

Extraction: (Type) SONC Date Extracted: 11/08/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/21/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 9.0 Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
12674-11-2	Aroclor-1016	88	U
11104-28-2	Aroclor-1221	88	U
11141-16-5	Aroclor-1232	88	U
53469-21-9	Aroclor-1242	88	U
12672-29-6	Aroclor-1248	65	PJ
11097-69-1	Aroclor-1254	89	
11096-82-5	Aroclor-1260	88	U
37324-23-5	Aroclor-1262	88	U
11100-14-4	Aroclor-1268	88	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30R4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-08A

Sample wt/vol: 30.6 (g/mL) G Lab File ID: E2K8249F.D/E2K8249R.D

% Moisture: 80 Decanted: (Y/N) N Date Received: 10/29/2011

Extraction: (Type) SONC Date Extracted: 11/08/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/21/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 8.2 Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
12674-11-2	Aroclor-1016	160	U
11104-28-2	Aroclor-1221	160	U
11141-16-5	Aroclor-1232	160	U
53469-21-9	Aroclor-1242	160	U
12672-29-6	Aroclor-1248	160	U
11097-69-1	Aroclor-1254	160	U
11096-82-5	Aroclor-1260	160	U
37324-23-5	Aroclor-1262	160	U
11100-14-4	Aroclor-1268	160	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30R6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-09A

Sample wt/vol: 30.4 (g/mL) G Lab File ID: E2K8250F.D/E2K8250R.D

% Moisture: 67 Decanted: (Y/N) N Date Received: 10/29/2011

Extraction: (Type) SONC Date Extracted: 11/08/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/21/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 7.7 Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
12674-11-2	Aroclor-1016	98	U
11104-28-2	Aroclor-1221	98	U
11141-16-5	Aroclor-1232	98	U
53469-21-9	Aroclor-1242	98	U
12672-29-6	Aroclor-1248	45	PJ
11097-69-1	Aroclor-1254	80	PJ
11096-82-5	Aroclor-1260	98	U
37324-23-5	Aroclor-1262	98	U
11100-14-4	Aroclor-1268	98	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30R7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-10A

Sample wt/vol: 30.5 (g/mL) G Lab File ID: E2K8251F.D/E2K8251R.D

% Moisture: 24 Decanted: (Y/N) N Date Received: 10/29/2011

Extraction: (Type) SONC Date Extracted: 11/08/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/21/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 8.5 Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
12674-11-2	Aroclor-1016	43	U
11104-28-2	Aroclor-1221	43	U
11141-16-5	Aroclor-1232	43	U
53469-21-9	Aroclor-1242	43	U
12672-29-6	Aroclor-1248	36	PJ
11097-69-1	Aroclor-1254	64	
11096-82-5	Aroclor-1260	43	U
37324-23-5	Aroclor-1262	43	U
11100-14-4	Aroclor-1268	43	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30R8

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-11A

Sample wt/vol: 30.1 (g/mL) G Lab File ID: E2K8252F.D/E2K8252R.D

% Moisture: 65 Decanted: (Y/N) N Date Received: 10/29/2011

Extraction: (Type) SONC Date Extracted: 11/08/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/21/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 8.0 Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
12674-11-2	Aroclor-1016	94	U
11104-28-2	Aroclor-1221	94	U
11141-16-5	Aroclor-1232	94	U
53469-21-9	Aroclor-1242	94	U
12672-29-6	Aroclor-1248	87	PJ
11097-69-1	Aroclor-1254	150	
11096-82-5	Aroclor-1260	94	U
37324-23-5	Aroclor-1262	94	U
11100-14-4	Aroclor-1268	94	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30S0

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-12A

Sample wt/vol: 30.0 (g/mL) G Lab File ID: E2K8253F.D/E2K8253R.D

% Moisture: 44 Decanted: (Y/N) N Date Received: 11/03/2011

Extraction: (Type) SONC Date Extracted: 11/08/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/21/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 7.8 Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
12674-11-2	Aroclor-1016	59	U
11104-28-2	Aroclor-1221	59	U
11141-16-5	Aroclor-1232	59	U
53469-21-9	Aroclor-1242	59	U
12672-29-6	Aroclor-1248	59	U
11097-69-1	Aroclor-1254	110	P
11096-82-5	Aroclor-1260	59	U
37324-23-5	Aroclor-1262	59	U
11100-14-4	Aroclor-1268	59	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30S1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-13A

Sample wt/vol: 30.5 (g/mL) G Lab File ID: E2K8256F.D/E2K8256R.D

% Moisture: 29 Decanted: (Y/N) N Date Received: 11/03/2011

Extraction: (Type) SONC Date Extracted: 11/08/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/21/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 8.8 Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
12674-11-2	Aroclor-1016	45	U
11104-28-2	Aroclor-1221	45	U
11141-16-5	Aroclor-1232	45	U
53469-21-9	Aroclor-1242	45	U
12672-29-6	Aroclor-1248	45	U
11097-69-1	Aroclor-1254	88	P
11096-82-5	Aroclor-1260	45	U
37324-23-5	Aroclor-1262	45	U
11100-14-4	Aroclor-1268	45	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30S2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-14A

Sample wt/vol: 30.6 (g/mL) G Lab File ID: E2K8257F.D/E2K8257R.D

% Moisture: 72 Decanted: (Y/N) N Date Received: 11/03/2011

Extraction: (Type) SONC Date Extracted: 11/08/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/21/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 8.2 Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
12674-11-2	Aroclor-1016	120	U
11104-28-2	Aroclor-1221	120	U
11141-16-5	Aroclor-1232	120	U
53469-21-9	Aroclor-1242	120	U
12672-29-6	Aroclor-1248	120	U
11097-69-1	Aroclor-1254	530	
11096-82-5	Aroclor-1260	120	U
37324-23-5	Aroclor-1262	120	U
11100-14-4	Aroclor-1268	120	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30S3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-15A

Sample wt/vol: 30.4 (g/mL) G Lab File ID: E2K8258F.D/E2K8258R.D

% Moisture: 31 Decanted: (Y/N) N Date Received: 11/03/2011

Extraction: (Type) SONC Date Extracted: 11/08/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/21/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 9.4 Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
12674-11-2	Aroclor-1016	47	U
11104-28-2	Aroclor-1221	47	U
11141-16-5	Aroclor-1232	47	U
53469-21-9	Aroclor-1242	47	U
12672-29-6	Aroclor-1248	59	P
11097-69-1	Aroclor-1254	71	
11096-82-5	Aroclor-1260	47	U
37324-23-5	Aroclor-1262	47	U
11100-14-4	Aroclor-1268	47	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30S6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-16A

Sample wt/vol: 30.0 (g/mL) G Lab File ID: E2K8259F.D/E2K8259R.D

% Moisture: 74 Decanted: (Y/N) N Date Received: 11/03/2011

Extraction: (Type) SONC Date Extracted: 11/08/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/21/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 8.4 Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
12674-11-2	Aroclor-1016	130	U
11104-28-2	Aroclor-1221	130	U
11141-16-5	Aroclor-1232	130	U
53469-21-9	Aroclor-1242	130	U
12672-29-6	Aroclor-1248	130	U
11097-69-1	Aroclor-1254	200	P
11096-82-5	Aroclor-1260	350	P
37324-23-5	Aroclor-1262	130	U
11100-14-4	Aroclor-1268	130	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30T6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-02B

Sample wt/vol: 30.3 (g/mL) G Lab File ID: E2K8278F.D/E2K8278R.D

% Moisture: 22 Decanted: (Y/N) N Date Received: 10/28/2011

Extraction: (Type) SONC Date Extracted: 11/07/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/21/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 7.9 Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
12674-11-2	Aroclor-1016	42	U
11104-28-2	Aroclor-1221	42	U
11141-16-5	Aroclor-1232	42	U
53469-21-9	Aroclor-1242	42	U
12672-29-6	Aroclor-1248	42	U
11097-69-1	Aroclor-1254	42	U
11096-82-5	Aroclor-1260	42	U
37324-23-5	Aroclor-1262	42	U
11100-14-4	Aroclor-1268	42	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30T7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-03B

Sample wt/vol: 30.0 (g/mL) G Lab File ID: E2K8335F.D/E2K8335R.D

% Moisture: 24 Decanted: (Y/N) N Date Received: 10/28/2011

Extraction: (Type) SONC Date Extracted: 11/07/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/22/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 7.7 Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
12674-11-2	Aroclor-1016	43	U
11104-28-2	Aroclor-1221	43	U
11141-16-5	Aroclor-1232	43	U
53469-21-9	Aroclor-1242	43	U
12672-29-6	Aroclor-1248	43	U
11097-69-1	Aroclor-1254	43	U
11096-82-5	Aroclor-1260	43	U
37324-23-5	Aroclor-1262	43	U
11100-14-4	Aroclor-1268	43	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30T8

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30T6

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2199-17A

Sample wt/vol: 30.2 (g/mL) G Lab File ID: E2K8260F.D/E2K8260R.D

% Moisture: 43 Decanted: (Y/N) N Date Received: 11/03/2011

Extraction: (Type) SONC Date Extracted: 11/08/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/21/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 7.9 Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
12674-11-2	Aroclor-1016	57	U
11104-28-2	Aroclor-1221	57	U
11141-16-5	Aroclor-1232	57	U
53469-21-9	Aroclor-1242	57	U
12672-29-6	Aroclor-1248	59	P
11097-69-1	Aroclor-1254	80	P
11096-82-5	Aroclor-1260	100	
37324-23-5	Aroclor-1262	57	U
11100-14-4	Aroclor-1268	57	U

REGION VIII
DATA VALIDATION REPORT
ORGANICS – DIOXINS/FURANS

TDD No.	Site Name		Operable Unit
1109-07	Smurfit Stone Mill		
RPM/OSC Name			
Robert Parker			
Contractor Laboratory	**Contract No.**	**SDG No.**	**Laboratory DPO/Region**
ALS Laboratory Group		WG1388181	

Review Assigned Date: February 9, 2012 Data Validator: Lisa Tyson
Review Completion Date: February 24, 2012 Report Reviewer: Bill Fear

Sample ID	Matrix	Analysis
SSGW01	Water	Dioxins and Furans by Method 8290A
SSGW02		
SSGW13		
SSGW14		
SSGW15		
SSGW16		
SSGW17		
SSGW23		
SSGW27		
SSSW01		
SSSW02		
SSSW03		
SSSW04		
SSSW05		
SSSW06		
SSSW07		

Sample ID	Matrix	Analysis
SSSW08	Water	Dioxins and Furans by Method 8290A
SSSW09		
SSSW10		

DATA QUALITY STATEMENT

( ) Data are ACCEPTABLE according to EPA Functional Guidelines with no qualifiers (flags) added by the reviewer.
( ) Data are UNACCEPTABLE according to EPA Functional Guidelines.
(X) Data are acceptable with QUALIFICATIONS noted in review.

PO Attention Required? Yes _____ No ___X__ If yes, list the items that require attention:

ORGANIC DATA VALIDATION REPORT

REVIEW NARRATIVE SUMMARY

This data package was reviewed according to the "National Functional Guidelines for Chlorinated Dibenzo-p-Dioxins (CDDs) and Chlorinated Dibenzofurans (CDFs) Data Review," September 2011, modified for the method used.

Raw data were reviewed for completeness and transcription accuracy onto the summary forms. Approximately 10-20% of the results reported in each of the samples, calibrations, and QC analyses were recalculated and verified. If problems were identified during the recalculation of results, a more thorough calculation check was performed.

Data package WG1388181 consisted of 19 water samples for dioxin and furan analyses by Method 8290A.

The following tables list data qualifiers added to the data. (Please see Data Qualifier Definitions, attached to the end of this report.)

Sample Number	Compound	Qualifier	Reason For Qualification	Review Section
SSSW04, SSSW05	2378-TCDD Total-TCDD	UJ	Low IS Recovery	6
SSGW17, SSSW01, SSSW02	123789-HxCDF	U	Blank contamination	7
SSGW13, SSGW14, SSGW16, SSGW17, SSSW04	1,2,3,4,6,7,8-HpCDF			
SSSW01, SSSW03, SSSW04	1,2,3,4,7,8,9-HpCDF			
SSGW15, SSGW17, SSSW01	Total HxCDF			
SSGW13, SSSW04	Total HpCDF			
SSGW27, SSSW01, SSSW02, SSSW03, SSSW04, SSSW05, SSSW07, SSSW08, SSSW09, SSSW10	1,2,3,4,6,7,8-HpCDD			
SSGW02, SSGW27, SSSW01, SSSW02, SSSW03, SSSW04, SSSW05, SSSW06, SSSW07, SSSW08, SSSW09, SSSW10	OCDD			
SSGW02, SSGW14, SSGW16, SSGW23, SSSW01, SSSW02, SSSW03	2,3,4,7,8-PeCDF			
SSGW13, SSGW16, SSGW17, SSSW01, SSSW02	OCDF			

Sample Number	Compound	Qualifier	Reason For Qualification	Review Section
SSGW02, SSGW13, SSGW14, SSGW15, SSGW16, SSGW17, SSGW23, SSGW27, SSSW01, SSSW02, SSSW03, SSSW04, SSSW05, SSSW06, SSSW07, SSSW08, SSSW09, SSSW10	All "R' flagged results	J	Compounds did not meet ion abundance ratios	9

Note: The laboratory's "R" flag (for ion abundance ratios) is different from the validation "R" flag used for rejected results.

1. DELIVERABLES

All deliverables were present.

ORGANICS: Yes X No____

Comments: None.

2. HOLDING TIMES AND PRESERVATION CRITERIA

All holding times and preservation criteria were met.

ORGANICS: Yes X No____

Comments: The water samples were extracted within 30 days of sample collection and all extracts were analyzed within 45 days of sample extraction. The chain-of-custody records indicated that sample coolers were received within the recommended temperature range of 4 ± 2 °C, or slightly outside that range. Chain-of-custody, summary forms, and raw data were evaluated.

3. MASS RESOLUTION AND COLUMN PERFORMANCE RESULTS

The mass resolution and column performance check results were within the specified control limits. All appropriate results were included.

ORGANICS: Yes X No____

Comments: None.

4. INSTRUMENT CALIBRATIONS: INITIAL AND CONTINUING STANDARDS

Initial instrument calibrations were performed according to method requirements and met control limits.

ORGANICS: Yes X No____

Comments: Percent relative standard deviations (%RSDs) of the relative response factors (RRFs) were less than the method criteria of 20% for the unlabeled target compounds and less than 20% for the labeled internal standards. All ion abundance ratios were within method control limits for the initial calibration.

Continuing (routine) calibrations were performed according to method requirements and met control limits.

ORGANICS: Yes X No____

Comments: The continuing verification calibration standards were analyzed at the beginning and end of each 12-hour period. The percent differences (%Ds) were less than the method criteria of 20% for the unlabeled target compounds (25% if an ending standard) and 30% for the labeled internal standards (35% for an ending standard). All ion abundance ratios were within method control limits for the continuing calibrations.

5. MATRIX SPIKE/MATRIX SPIKE DUPLICATE/LABORATORY CONTROL SAMPLES

Matrix Spike/Matrix Spike Duplicate (MS/MSD) and laboratory control sample/laboratory control sample duplicate (LCS/LCSD) analyses were performed according to method requirements and results met recommended recovery and precision limits.

ORGANICS: Yes X No____

Comments: MS/MSD analyses were performed on sample SSGW23. The percent recoveries were within laboratory QC limits of 80-120%. A laboratory control sample (LCS) analysis was also performed. The percent recoveries were within laboratory QC limits. Summary forms and raw data were evaluated.

6. INTERNAL STANDARD AREA

Internal standard area analysis was performed according to method requirements and results met specified control limits.

ORGANICS: Yes___ No X

Comments: Internal standards and cleanup standards were included. Summary forms and raw data were evaluated.

The following table lists the samples with labeled standard percent recoveries (%Rs) outside control limits, which resulted in qualification, and the qualifiers added to the data:

Sample Number	Labeled Standard	%R	Control Limit	Compounds	Qualifiers
SSSW04	13C12-2378-TCDD C14-2378-TCDD	37% 34%	40-130%	2378-TCDD Total-TCDD	UJ
SSSW05	13C12-2378-TCDD C14-2378-TCDD	30% 35%			

7. LABORATORY BLANK ANALYSIS RESULTS

The laboratory blank analysis was performed according to method requirements and results met specified limits.

ORGANICS: Yes___ No_X_

Comments: Method blanks were extracted at the correct frequency. Summary forms and raw data were evaluated. The following table summarizes the blanks that resulted in qualification (sample results less than five times the blank value adjusted for sample amount).

Blank ID	Contaminant	Concentration Found in Blank (pg/L)	Associated Samples	Concentration Found in Sample (pg/L)	Qualifier/ Adjustment
MB	123789-HxCDF	0.864	SSGW17 SSSW01 SSSW02	0.51 0.64 0.48	U
	1234678-HpCDF	0.723	SSGW13 SSGW14 SSGW16 SSGW17 SSSW04	0.74 0.23 0.6 1.6 0.19	
	1234789-HpCDF	1.28	SSSW01 SSSW03 SSSW04	0.55 0.4 0.63	
	Total HxCDF	0.864	SSGW15 SSGW17 SSSW01	0.902 0.6 0.36	
	Total HpCDF	2.0	SSGW13 SSSW04	0.67 0.63	
	1234678-HpCDD	<1.2	SSGW27 SSSW01 SSSW02 SSSW03 SSSW04 SSSW05 SSSW07 SSSW08 SSSW09 SSSW10	0.7 1.79 1.69 1.86 0.78 0.65 0.55 1.02 0.78 0.6	
	OCDD	<2.7	SSGW02 SSGW27 SSSW01 SSSW02 SSSW03 SSSW04 SSSW05 SSSW06 SSSW07 SSSW08 SSSW09 SSSW10	3.8 2.1 8.7 7.86 10 2.99 3.2 2.3 2.54 2.9 1.9 0.9	

Blank ID	Contaminant	Concentration Found in Blank (pg/L)	Associated Samples	Concentration Found in Sample (pg/L)	Qualifier/ Adjustment
MB	23478-PeCDF	<0.79	SSGW02 SSGW14 SSGW16 SSGW23 SSSW01 SSSW02 SSSW03	0.5 0.49 0.61 0.25 0.45 0.48 0.42	U
	OCDF	<1.7	SSGW13 SSGW16 SSGW17 SSSW01 SSSW02	1.1 1.32 1.8 1.6 0.99	

8. SAMPLE RESULTS

The sample results were reviewed and all compound identifications were acceptable and met method requirements.

ORGANICS: Yes____ No_X_

Comments: The samples were analyzed on a DB-5MS column. Detected results for 2,3,7,8-TCDF were not confirmed by analysis on a DB-225 column or equivalent column.

Various detected results were flagged "R" by the laboratory indicating that the ion abundance ratios for these compounds did not meet acceptance criteria, Therefore, these "R" flagged results in samples SSGW02, SSGW13, SSGW14, SSGW15, SSGW16, SSGW17, SSGW23, SSGW27, SSSW01, SSSW02, SSSW03, SSSW04, SSSW05, SSSW06, SSSW07, SSSW08, SSSW09, and SSSW10 were qualified as estimated "J". [Note: The laboratory's "R" flag (for ion abundance ratios) is different from the validation "R" flag used for rejected results.]

9. ADDITIONAL COMMENTS OR PROBLEMS NOT ADDRESSED ABOVE

All problems/resolutions were addressed in the above sections.

ORGANICS: Yes_X_ No____

Comments: None.

ORGANIC DATA QUALITY ASSURANCE REVIEW

Region VIII

DATA QUALIFIER DEFINITIONS

For the purpose of Data Validation, the following code letters and associated definitions are provided for use by the data validator to summarize the data quality.

GENERAL QUALIFIERS for use with both INORGANIC and ORGANIC DATA

R	-	Reported value is "rejected." Resampling or reanalysis may be necessary to verify the presence or absence of the compound.
J	-	The associated numerical value is an estimated quantity because the Quality Control criteria were not met.
U J	-	The reported quantitation limit is estimated because Quality Control criteria were not met. Element or compound was not detected.
N J	-	Estimated value of a tentatively identified compound. (Identified with a CAS number) ORGANICS analysis only.
U	-	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

ALS Environmental

Sample Analysis summary Report

Sample Name	SSGW01	SSGW02	SSGW13	SSGW14	SSGW15	SSGW16
ALS Sample ID	L1080162-23	L1080162-24	L1080162-25	L1080162-26	L1080162-27	L1080162-28
Sample Size	0.97	0.93	0.97	0.98	0.94	0.99
Sample size units	Litres	Litres	Litres	Litres	Litres	Litres
Percent Moisture	n/a	n/a	n/a	n/a	n/a	n/a
Sample Matrix	WATER	WATER	WATER	WATER	WATER	WATER
Sampling Date	26-Oct-11	26-Oct-11	26-Oct-11	26-Oct-11	26-Oct-11	26-Oct-11
Extraction Date	16-Nov-11	16-Nov-11	16-Nov-11	16-Nov-11	16-Nov-11	16-Nov-11
Target Analytes	**pg/L**	**pg/L**	**pg/L**	**pg/L**	**pg/L**	**pg/L**
2,3,7,8-TCDD	<0.27	<0.33	<3.1	<0.48	<0.83	<0.61
1,2,3,7,8-PeCDD	<0.84	<0.73	<0.67	<0.75	<0.82	1.35
1,2,3,4,7,8-HxCDD	<0.88	<0.36	<0.36	<0.18	<0.34	<0.12
1,2,3,6,7,8-HxCDD	<0.90	<0.36	<1.5	<1.9	<4.1	5.05
1,2,3,7,8,9-HxCDD	<0.90	<0.36	1.20	<1.8	<2.4	<2.1
1,2,3,4,6,7,8-HpCDD	2.91	<0.81	9.36	14.7	22.8	<10
OCDD	29.0	3.75	<27	39.6	61.0	<38
2,3,7,8-TCDF	<0.20	<0.30	<0.68	<0.80	<1.1	<1.7
1,2,3,7,8-PeCDF	<0.51	<0.46	<0.58	<0.39	<0.48	<0.46
2,3,4,7,8-PeCDF	<0.44	<0.50	<0.48	<0.49	<0.42	<0.61
1,2,3,4,7,8-HxCDF	<0.48	<0.29	<0.29	<0.34	<0.32	<0.26
1,2,3,6,7,8-HxCDF	<0.48	<0.29	<0.29	<0.33	<0.32	<0.25
2,3,4,6,7,8-HxCDF	<0.51	<0.29	<0.32	<0.34	<0.32	<0.26
1,2,3,7,8,9-HxCDF	<0.60	<0.35	<0.36	<0.42	<0.39	<0.30
1,2,3,4,6,7,8-HpCDF	<0.61	<0.44	<0.74	<0.23	<0.40	<0.60
1,2,3,4,7,8,9-HpCDF	<0.88	<0.66	<0.43	<0.22	<0.54	<0.27
OCDF	<1.4	<1.1	1.12	<0.67	<0.43	1.32
Extraction Standards	**% Rec**	**% Rec**	**% Rec**	**% Rec**	**% Rec**	**% Rec**
13C12-2,3,7,8-TCDD	73	72	50	68	65	63
13C12-1,2,3,7,8-PeCDD	87	98	79	87	82	76
13C12-1,2,3,4,7,8-HxCDD	89	94	78	83	83	76
13C12-1,2,3,6,7,8-HxCDD	83	89	72	87	79	74
13C12-1,2,3,4,6,7,8-HpCDD	82	92	74	83	79	75
13C12-OCDD	81	92	76	90	81	79
13C12-2,3,7,8-TCDF	68	71	45	61	60	59
13C12-1,2,3,7,8-PeCDF	85	90	73	83	78	73
13C12-2,3,4,7,8-PeCDF	87	100	78	88	83	78
13C12-1,2,3,4,7,8-HxCDF	81	84	69	80	75	70
13C12-1,2,3,6,7,8-HxCDF	80	84	68	77	74	69
13C12-2,3,4,6,7,8-HxCDF	77	85	68	77	74	68
13C12-1,2,3,7,8,9-HxCDF	78	84	68	77	74	69
13C12-1,2,3,4,6,7,8-HpCDF	82	88	71	82	75	74
13C12-1,2,3,4,7,8,9-HpCDF	80	83	68	82	77	70
Cleanup Standard						
37Cl4-2,3,7,8-TCDD (Cleanup)	70	70	55	66	71	70
Homologue Group Totals	**pg/L**	**pg/L**	**pg/L**	**pg/L**	**pg/L**	**pg/L**
Total-TCDD	<0.27	<0.33	<3.1	<0.48	<0.83	<0.61
Total-PeCDD	<0.84	<0.73	<0.67	<0.75	1.65	3.44
Total-HxCDD	<0.90	<0.36	1.20	12.6	<0.34	5.05
Total-HpCDD	2.91	<0.81	18.2	28.7	44.0	12.8
Total-TCDF	<0.20	<0.30	<0.68	<0.33	1.41	7.43
Total-PeCDF	<0.51	<0.46	<0.58	<0.39	<0.48	3.04
Total-HxCDF	<0.60	<0.35	<0.36	<0.42	0.902	<0.30
Total-HpCDF	<0.88	<0.66	0.665	<0.22	<0.54	<0.27
Toxic Equivalency - (NATO)						
Lower Bound PCDD/F TEQ (NATO)	0.0581	0.00375	0.215	0.187	0.289	1.18
Mid Point PCDD/F TEQ (NATO)	1.09	1.03	4.11	1.91	2.70	2.75
Upper Bound PCDD/F TEQ (NATO)	1.50	1.25	4.34	1.92	2.70	2.77

ALS Environmental

Sample Analysis summary Report

Sample Name	SSGW17	SSGW27	SSSW01	SSSW02	SSSW03	SSSW04
ALS Sample ID	L1080162-29	L1080162-30	L1080162-31	L1080162-32	L1080162-33	L1080162-34
Sample Size	0.94	0.98	0.99	0.98	0.86	0.97
Sample size units	Litres	Litres	Litres	Litres	Litres	Litres
Percent Moisture	n/a	n/a	n/a	n/a	n/a	n/a
Sample Matrix	WATER	WATER	WATER	WATER	WATER	WATER
Sampling Date	26-Oct-11	25-Oct-11	24-Oct-11	24-Oct-11	24-Oct-11	24-Oct-11
Extraction Date	16-Nov-11	16-Nov-11	16-Nov-11	16-Nov-11	16-Nov-11	16-Nov-11
Target Analytes	**pg/L**	**pg/L**	**pg/L**	**pg/L**	**pg/L**	**pg/L**
2,3,7,8-TCDD	<1.1	<0.29	<0.48	<0.56	<0.52	<1.1
1,2,3,7,8-PeCDD	<1.1	<0.43	<0.52	<0.55	<0.71	<0.61
1,2,3,4,7,8-HxCDD	<0.43	<0.38	<0.39	<0.43	<0.46	<0.72
1,2,3,6,7,8-HxCDD	3.30	<0.39	<0.49	<0.44	<0.48	<0.76
1,2,3,7,8,9-HxCDD	<1.4	<0.39	0.472	<0.44	<0.47	<0.75
1,2,3,4,6,7,8-HpCDD	20.0	<0.70	1.79	1.69	1.86	0.775
OCDD	162	<2.1	8.71	7.86	<10	2.99
2,3,7,8-TCDF	2.96	<0.43	<0.39	<0.44	<0.45	<0.47
1,2,3,7,8-PeCDF	<0.70	<0.23	<0.37	<0.26	<0.33	<0.35
2,3,4,7,8-PeCDF	<0.63	<0.20	<0.45	<0.48	<0.42	<0.32
1,2,3,4,7,8-HxCDF	<0.38	<0.17	<0.26	<0.21	<0.35	<0.21
1,2,3,6,7,8-HxCDF	<0.38	<0.17	<0.26	<0.26	<0.33	<0.20
2,3,4,6,7,8-HxCDF	0.595	<0.18	0.357	<0.22	<0.34	<0.22
1,2,3,7,8,9-HxCDF	<0.51	<0.22	<0.64	<0.48	<0.42	<0.27
1,2,3,4,6,7,8-HpCDF	<1.6	<0.22	<0.33	<0.26	<0.22	<0.19
1,2,3,4,7,8,9-HpCDF	<0.56	<0.32	<0.55	<0.38	<0.40	0.628
OCDF	<1.8	<0.40	<1.6	<0.99	<0.60	<0.46
Extraction Standards	**% Rec**	**% Rec**	**% Rec**	**% Rec**	**% Rec**	**% Rec**
13C12-2,3,7,8-TCDD	46	74	75	67	71	37
13C12-1,2,3,7,8-PeCDD	61	88	78	70	82	76
13C12-1,2,3,4,7,8-HxCDD	63	91	89	83	94	85
13C12-1,2,3,6,7,8-HxCDD	58	82	93	77	94	89
13C12-1,2,3,4,6,7,8-HpCDD	62	84	90	81	88	83
13C12-OCDD	67	88	100	88	94	88
13C12-2,3,7,8-TCDF	42	72	77	71	83	71
13C12-1,2,3,7,8-PeCDF	58	84	84	76	91	83
13C12-2,3,4,7,8-PeCDF	61	89	87	77	90	83
13C12-1,2,3,4,7,8-HxCDF	57	82	97	85	103	93
13C12-1,2,3,6,7,8-HxCDF	55	80	92	85	98	91
13C12-2,3,4,6,7,8-HxCDF	55	78	92	84	98	88
13C12-1,2,3,7,8,9-HxCDF	56	81	94	86	99	90
13C12-1,2,3,4,6,7,8-HpCDF	60	82	98	87	100	91
13C12-1,2,3,4,7,8,9-HpCDF	60	81	97	86	94	88
Cleanup Standard						
37Cl4-2,3,7,8-TCDD (Cleanup)	61	70	74	58	67	34
Homologue Group Totals	**pg/L**	**pg/L**	**pg/L**	**pg/L**	**pg/L**	**pg/L**
Total-TCDD	<0.69	<0.29	<0.48	<0.56	<0.52	<1.1
Total-PeCDD	<1.1	<0.43	<0.52	<0.55	<0.71	<0.61
Total-HxCDD	16.5	0.703	0.472	<0.44	<0.48	<0.76
Total-HpCDD	40.4	<0.42	3.24	1.69	1.86	0.775
Total-TCDF	2.96	<0.43	<0.39	<0.44	<0.45	<0.47
Total-PeCDF	<0.70	<0.23	<0.37	<0.26	<0.33	<0.35
Total-HxCDF	0.595	<0.22	0.357	<0.26	<0.42	<0.27
Total-HpCDF	<0.56	<0.32	<0.47	<0.38	<0.32	0.628
Toxic Equivalency - (NATO)						
Lower Bound PCDD/F TEQ (NATO)	1.05	0.00	0.110	0.0248	0.0186	0.0170
Mid Point PCDD/F TEQ (NATO)	3.09	0.751	1.35	1.27	1.28	1.81
Upper Bound PCDD/F TEQ (NATO)	3.38	0.864	1.35	1.41	1.47	1.96

ALS Environmental

Sample Analysis summary Report

Sample Name	SSSW05	SSSW06	SSSW07	SSSW08	SSSW09	SSSW10
ALS Sample ID	L1080162-35	L1080162-36	L1080162-37	L1080162-38	L1080162-39	L1080162-40
Sample Size	0.99	0.94	0.99	0.95	0.94	0.96
Sample size units	Litres	Litres	Litres	Litres	Litres	Litres
Percent Moisture	n/a	n/a	n/a	n/a	n/a	n/a
Sample Matrix	WATER	WATER	WATER	WATER	WATER	WATER
Sampling Date	24-Oct-11	24-Oct-11	24-Oct-11	25-Oct-11	25-Oct-11	25-Oct-11
Extraction Date	16-Nov-11	16-Nov-11	16-Nov-11	16-Nov-11	16-Nov-11	16-Nov-11
Target Analytes	**pg/L**	**pg/L**	**pg/L**	**pg/L**	**pg/L**	**pg/L**
2,3,7,8-TCDD	<0.97	<0.49	<0.42	<0.58	<0.48	<0.70
1,2,3,7,8-PeCDD	<0.71	<0.65	<0.66	<0.56	<0.66	<0.77
1,2,3,4,7,8-HxCDD	<0.59	<0.34	<0.19	<0.55	<0.36	<0.56
1,2,3,6,7,8-HxCDD	<0.63	<0.36	<0.20	<0.55	<0.37	<0.57
1,2,3,7,8,9-HxCDD	<0.61	<0.36	<0.20	<0.55	<0.37	<0.57
1,2,3,4,6,7,8-HpCDD	<0.65	<0.43	<0.55	1.02	<0.78	<0.60
OCDD	3.18	<2.3	2.54	<2.9	<1.9	<0.90
2,3,7,8-TCDF	<0.41	<0.46	<0.30	<0.51	<0.46	<0.37
1,2,3,7,8-PeCDF	<0.47	<0.34	<0.29	<0.36	<0.31	<0.33
2,3,4,7,8-PeCDF	<0.46	<0.31	<0.26	<0.30	<0.28	<0.29
1,2,3,4,7,8-HxCDF	<0.25	<0.23	<0.18	<0.25	<0.21	<0.25
1,2,3,6,7,8-HxCDF	<0.24	<0.22	<0.18	<0.26	<0.21	<0.24
2,3,4,6,7,8-HxCDF	<0.28	<0.23	<0.19	<0.25	<0.22	<0.25
1,2,3,7,8,9-HxCDF	<0.34	<0.27	<0.23	<0.31	<0.27	<0.31
1,2,3,4,6,7,8-HpCDF	<0.23	<0.28	<0.23	<0.17	<0.30	<0.22
1,2,3,4,7,8,9-HpCDF	<0.33	<0.41	<0.34	<0.26	<0.41	<0.30
OCDF	<0.64	<0.65	<0.51	<0.65	<0.80	<0.47
Extraction Standards	**% Rec**	**% Rec**	**% Rec**	**% Rec**	**% Rec**	**% Rec**
13C12-2,3,7,8-TCDD	30	63	68	65	76	60
13C12-1,2,3,7,8-PeCDD	72	72	75	72	79	66
13C12-1,2,3,4,7,8-HxCDD	84	85	87	87	91	79
13C12-1,2,3,6,7,8-HxCDD	86	84	87	83	96	78
13C12-1,2,3,4,6,7,8-HpCDD	78	84	84	84	91	79
13C12-OCDD	81	87	89	91	100	84
13C12-2,3,7,8-TCDF	72	69	70	70	79	66
13C12-1,2,3,7,8-PeCDF	83	79	85	78	87	75
13C12-2,3,4,7,8-PeCDF	77	81	82	83	89	76
13C12-1,2,3,4,7,8-HxCDF	96	89	96	90	100	84
13C12-1,2,3,6,7,8-HxCDF	92	89	90	89	97	84
13C12-2,3,4,6,7,8-HxCDF	83	87	89	88	96	84
13C12-1,2,3,7,8,9-HxCDF	89	89	93	90	100	85
13C12-1,2,3,4,6,7,8-HpCDF	90	91	93	93	101	86
13C12-1,2,3,4,7,8,9-HpCDF	87	87	86	88	99	84
Cleanup Standard						
37Cl4-2,3,7,8-TCDD (Cleanup)	35	59	66	65	79	60
Homologue Group Totals	**pg/L**	**pg/L**	**pg/L**	**pg/L**	**pg/L**	**pg/L**
Total-TCDD	<0.97	<0.49	<0.42	<0.58	<0.48	<0.70
Total-PeCDD	<0.71	<0.65	<0.66	<0.56	<0.66	<0.77
Total-HxCDD	1.23	<0.36	<0.20	<0.55	<0.37	<0.57
Total-HpCDD	<0.39	<0.43	<0.43	1.02	<0.53	<0.54
Total-TCDF	<0.41	<0.46	<0.30	<0.51	<0.46	<0.37
Total-PeCDF	<0.47	<0.34	<0.29	<0.36	<0.31	<0.33
Total-HxCDF	<0.34	<0.27	<0.23	<0.31	<0.27	<0.31
Total-HpCDF	<0.33	<0.41	<0.34	<0.26	<0.41	<0.30
Toxic Equivalency - (NATO)						
Lower Bound PCDD/F TEQ (NATO)	0.00318	0.00	0.00254	0.0102	0.00	0.00
Mid Point PCDD/F TEQ (NATO)	1.80	1.09	0.839	1.23	1.07	1.57
Upper Bound PCDD/F TEQ (NATO)	1.93	1.25	1.08	1.37	1.23	1.57

ALS Environmental

Sample Analysis summary Report

Sample Name	SSGW23
ALS Sample ID	L1081891-12
Sample Size	0.96
Sample size units	Litres
Percent Moisture	n/a
Sample Matrix	WATER
Sampling Date	29-Oct-11
Extraction Date	16-Nov-11

Target Analytes	pg/L
2,3,7,8-TCDD	<0.80
1,2,3,7,8-PeCDD	<0.64
1,2,3,4,7,8-HxCDD	<0.19
1,2,3,6,7,8-HxCDD	<0.20
1,2,3,7,8,9-HxCDD	<0.20
1,2,3,4,6,7,8-HpCDD	<0.43
OCDD	<6.3
2,3,7,8-TCDF	<0.39
1,2,3,7,8-PeCDF	<0.21
2,3,4,7,8-PeCDF	<0.25
1,2,3,4,7,8-HxCDF	<0.17
1,2,3,6,7,8-HxCDF	<0.17
2,3,4,6,7,8-HxCDF	<0.17
1,2,3,7,8,9-HxCDF	<0.21
1,2,3,4,6,7,8-HpCDF	<0.16
1,2,3,4,7,8,9-HpCDF	<0.22
OCDF	<0.69

Extraction Standards	% Rec
13C12-2,3,7,8-TCDD	65
13C12-1,2,3,7,8-PeCDD	75
13C12-1,2,3,4,7,8-HxCDD	83
13C12-1,2,3,6,7,8-HxCDD	90
13C12-1,2,3,4,6,7,8-HpCDD	86
13C12-OCDD	96
13C12-2,3,7,8-TCDF	74
13C12-1,2,3,7,8-PeCDF	82
13C12-2,3,4,7,8-PeCDF	83
13C12-1,2,3,4,7,8-HxCDF	93
13C12-1,2,3,6,7,8-HxCDF	92
13C12-2,3,4,6,7,8-HxCDF	91
13C12-1,2,3,7,8,9-HxCDF	92
13C12-1,2,3,4,6,7,8-HpCDF	95
13C12-1,2,3,4,7,8,9-HpCDF	92

Cleanup Standard	
37Cl4-2,3,7,8-TCDD (Cleanup)	65

Homologue Group Totals	pg/L
Total-TCDD	<0.80
Total-PeCDD	<0.64
Total-HxCDD	<0.20
Total-HpCDD	<0.43
Total-TCDF	<0.39
Total-PeCDF	<0.21
Total-HxCDF	<0.21
Total-HpCDF	<0.22

Toxic Equivalency - (NATO)	
Lower Bound PCDD/F TEQ (NATO)	0.00
Mid Point PCDD/F TEQ (NATO)	1.28
Upper Bound PCDD/F TEQ (NATO)	1.44

ALS Environmental

Quality Control Summary Report

Sample Name	Method Blank	LCS	SSGW23MS	SSGW23MSD
ALS Sample ID	WG1388181-1	WG1388181-2	L1081891-13	L1081891-14
Sample Size	1.00	1.00	0.95	0.96
Sample size units	Litres	n/a	n/a	n/a
Percent Moisture	n/a	n/a	n/a	n/a
Sample Matrix	QC	QC	WATER	WATER
Sampling Date	n/a	n/a	29-Oct-11	29-Oct-11
Extraction Date	16-Nov-11	16-Nov-11	16-Nov-11	16-Nov-11
Target Analytes	**pg/L**	**% Rec**	**% Rec**	**% Rec**
2,3,7,8-TCDD	<0.42	89	94	94
1,2,3,7,8-PeCDD	<0.72	102	104	104
1,2,3,4,7,8-HxCDD	<0.37	96	99	102
1,2,3,6,7,8-HxCDD	<0.38	96	101	101
1,2,3,7,8,9-HxCDD	<0.37	96	100	103
1,2,3,4,6,7,8-HpCDD	<1.2	100	102	103
OCDD	<2.7	95	97	99
2,3,7,8-TCDF	<0.28	92	97	98
1,2,3,7,8-PeCDF	<0.33	93	96	96
2,3,4,7,8-PeCDF	<0.79	94	97	98
1,2,3,4,7,8-HxCDF	<0.34	95	97	96
1,2,3,6,7,8-HxCDF	<0.33	98	96	100
2,3,4,6,7,8-HxCDF	<0.33	96	98	99
1,2,3,7,8,9-HxCDF	0.864	94	95	96
1,2,3,4,6,7,8-HpCDF	0.723	94	95	97
1,2,3,4,7,8,9-HpCDF	1.28	95	95	95
OCDF	<1.7	87	95	97
Extraction Standards	**% Rec**	**% Rec**	**% Rec**	**% Rec**
13C12-2,3,7,8-TCDD	79	71	60	72
13C12-1,2,3,7,8-PeCDD	83	86	77	78
13C12-1,2,3,4,7,8-HxCDD	92	92	90	88
13C12-1,2,3,6,7,8-HxCDD	94	85	89	90
13C12-1,2,3,4,6,7,8-HpCDD	98	86	86	89
13C12-OCDD	108	96	98	97
13C12-2,3,7,8-TCDF	74	68	78	78
13C12-1,2,3,7,8-PeCDF	85	84	88	88
13C12-2,3,4,7,8-PeCDF	88	90	88	87
13C12-1,2,3,4,7,8-HxCDF	90	84	93	96
13C12-1,2,3,6,7,8-HxCDF	86	84	93	92
13C12-2,3,4,6,7,8-HxCDF	87	84	92	92
13C12-1,2,3,7,8,9-HxCDF	93	85	94	96
13C12-1,2,3,4,6,7,8-HpCDF	98	89	97	97
13C12-1,2,3,4,7,8,9-HpCDF	100	88	94	96
Cleanup Standard				
37Cl4-2,3,7,8-TCDD (Cleanup)	69	73	59	63
Homologue Group Totals	**pg/L**			
Total-TCDD	<0.42			
Total-PeCDD	<0.72			
Total-HxCDD	<0.38			
Total-HpCDD	<0.52			
Total-TCDF	<0.28			
Total-PeCDF	<0.33			
Total-HxCDF	0.864			
Total-HpCDF	2.00			
Toxic Equivalency - (NATO)				
Lower Bound PCDD/F TEQ (NATO)	0.106			
Mid Point PCDD/F TEQ (NATO)	1.05			
Upper Bound PCDD/F TEQ (NATO)	1.55			

REGION VIII
DATA VALIDATION REPORT
ORGANICS – DIOXINS/FURANS

TDD No.	Site Name		Operable Unit
1109-07	Smurfit Stone Mill		
RPM/OSC Name			
Robert Parker			
Contractor Laboratory	**Contract No.**	**SDG No.**	**Laboratory DPO/Region**
ALS Laboratory Group		WG1388882	

Review Assigned Date: February 9, 2012 Data Validator: Amy Ballow
Review Completion Date: February 24, 2012 Report Reviewer: Bill Fear

Sample ID	Matrix	Analysis
SSGW03	Water	Dioxins and Furans by Method 8290A
SSGW04		
SSGW05		
SSGW07		
SSGW08		
SSGW10		
SSGW11		
SSGW12		
SSGW18		
SSGW24		
SSGW25		
SSGW26		
SSGW89		
SSGW99		
SSSW89		

DATA QUALITY STATEMENT

( ) Data are ACCEPTABLE according to EPA Functional Guidelines with no qualifiers (flags) added by the reviewer.
( ) Data are UNACCEPTABLE according to EPA Functional Guidelines.
(X) Data are acceptable with QUALIFICATIONS noted in review.

PO Attention Required? Yes _____ No ___X__ If yes, list the items that require attention:

ORGANIC DATA VALIDATION REPORT

REVIEW NARRATIVE SUMMARY

This data package was reviewed according to the "National Functional Guidelines for Chlorinated Dibenzo-p-Dioxins (CDDs) and Chlorinated Dibenzofurans (CDFs) Data Review," September 2011, modified for the method used.

Raw data were reviewed for completeness and transcription accuracy onto the summary forms. Approximately 10-20% of the results reported in each of the samples, calibrations, and QC analyses were recalculated and verified. If problems were identified during the recalculation of results, a more thorough calculation check was performed.

Data package WG1388882 consisted of 15 water samples for dioxin and furan analyses by Method 8290A.

The following tables list data qualifiers added to the data. (Please see Data Qualifier Definitions, attached to the end of this report.)

Sample Number	Compound	Qualifier	Reason For Qualification	Review Section
SSGW05	12378-PeCDD 2378-TCDF 12378-PeCDF 23478-PeCDF Total-PeCDD Total-TCDF Total-PeCDF	J/UJ	Low IS Recovery	6
SSGW08	12378-PeCDD 2378-TCDF 23478-PeCDF Total-PeCDD Total-TCDF Total-PeCDF			
SSGW12	123478-HxCDD	U	Blank contamination	7
SSGW03, SSGW10, SSGW18, SSGW24, SSGW89	123678-HxCDD			
SSGW03, SSGW10, SSGW11, SSGW12, SSGW18, SSGW89	123789-HxCDD			
SSGW99	1234678-HpCDD			
SSGW25, SSGW26, SSGW99	OCDD			
SSGW03, SSGW11, SSGW12, SSGW18, SSGW24, SSGW26	23478-PeCDF			
SSGW05, SSGW12	123478-HxCDF			

Sample Number	Compound	Qualifier	Reason For Qualification	Review Section
SSGW12	234678-HxCDF	U	Blank contamination	7
SSGW03, SSGW04	123789-HxCDF			
SSGW03, SSGW07, SSGW10, SSGW11, SSGW12, SSGW18	1234678-HpCDF			
SSGW03, SSGW12, SSGW25	1234789-HpCDF			
SSGW03, SSGW04, SSGW07, SSGW10, SSGW11, SSGW12, SSGW18, SSGW24	OCDF			
SSGW99	Total-HpCDD			
SSGW03, SSGW07, SSGW10, SSGW11, SSGW12	Total-HxCDF			
SSGW03, SSGW04, SSGW05, SSGW07, SSGW08, SSGW10, SSGW11, SSGW12, SSGW18, SSGW24, SSGW25, SSGW26, SSGW89, SSGW99	All "R' flagged results	J	Compounds did not meet ion abundance ratios	9

Note: The laboratory's "R" flag (for ion abundance ratios) is different from the validation "R" flag used for rejected results.

1. DELIVERABLES

All deliverables were present.

ORGANICS: Yes X No____

Comments: None.

2. HOLDING TIMES AND PRESERVATION CRITERIA

All holding times and preservation criteria were met.

ORGANICS: Yes X No____

Comments: The water samples were extracted within 30 days of sample collection and all extracts were analyzed within 45 days of sample extraction. The chain-of-custody records indicated that sample coolers were received within the recommended temperature range of 4 ± 2 °C.

Chain-of-custody, summary forms, and raw data were evaluated.

3. MASS RESOLUTION AND COLUMN PERFORMANCE RESULTS

The mass resolution and column performance check results were within the specified control limits. All appropriate results were included.

ORGANICS: Yes X No____

Comments: None.

4. INSTRUMENT CALIBRATIONS: INITIAL AND CONTINUING STANDARDS

Initial instrument calibrations were performed according to method requirements and met control limits.

ORGANICS: Yes X No____

Comments: Percent relative standard deviations (%RSDs) of the relative response factors (RRFs) were less than the method criteria of 20% for the unlabeled target compounds and less than 20% for the labeled internal standards. All ion abundance ratios were within method control limits for the initial calibration.

Continuing (routine) calibrations were performed according to method requirements and met control limits.

ORGANICS: Yes X No____

Comments: The continuing verification calibration standards were analyzed at the beginning and end of each 12-hour period. The percent differences (%Ds) were less than the method criteria of 20% for the unlabeled target compounds (25% if an ending standard) and 30% for the labeled internal standards (35% for an ending standard). All ion abundance ratios were within method control limits for the continuing calibrations.

5. MATRIX SPIKE/MATRIX SPIKE DUPLICATE/LABORATORY CONTROL SAMPLES

Matrix Spike/Matrix Spike Duplicate (MS/MSD) and laboratory control sample/laboratory control sample duplicate (LCS/LCSD) analyses were performed according to method requirements and results met recommended recovery and precision limits.

ORGANICS: Yes X No____

Comments: MS/MSD analyses were performed on sample SSGW10. All percent recoveries and relative percent differences (RPDs) were within laboratory QC limits. A laboratory control sample (LCS) analysis was also performed. The percent recoveries were within laboratory QC limits. Summary forms and raw data were evaluated.

6. INTERNAL STANDARD AREA

Internal standard area analysis was performed according to method requirements and results met specified control limits.

ORGANICS: Yes____ No X

Comments: Internal standards and cleanup standards were included. Summary forms and raw data were evaluated.

The following table lists the samples with labeled standard percent recoveries (%Rs) outside control limits, which resulted in qualification, and the qualifiers added to the data:

Sample Number	Labeled Standard	%R	Control Limit	Compounds	Qualifiers
SSGW05	C13-12378-PeCDD	31%	40-130%	12378-PeCDD Total-PeCDD	J/UJ
	C13-2378-TCDF	38%		2378-TCDF Total-TCDF	

Sample Number	Labeled Standard	%R	Control Limit	Compounds	Qualifiers
SSGW05	C13-12378-PeCDF	38%	40-130%	12378-PeCDF Total-PeCDF	J/UJ
	C13-23478-PeCDF	35%		23478-PeCDF Total-PeCDF	
SSGW08	C13-12378-PeCDD	34%		12378-PeCDD Total-PeCDD	
	C13-2378-TCDF	39%		2378-TCDF Total-TCDF	
	C13-23478-PeCDF	38%		23478-PeCDF Total-PeCDF	

7. LABORATORY BLANK ANALYSIS RESULTS

The laboratory blank analysis was performed according to method requirements and results met specified limits.

ORGANICS: Yes___ No_X_

Comments: Method blanks were extracted at the correct frequency. Summary forms and raw data were evaluated.

The following table summarizes the blanks that resulted in qualification (sample results less than five times the blank value adjusted for sample amount).

Blank ID	Contaminant	Concentration Found in Blank (pg/L)	Associated Samples	Concentration Found in Sample (pg/L)	Qualifier/ Adjustment
MB	123478-HxCDD	<0.65	SSGW12	1.3	U
	123678-HxCDD	<0.99	SSGW03 SSGW10 SSGW18 SSGW24 SSGW89	0.81 3.2 3.4 0.72 3.5	
	123789-HxCDD	<1.1	SSGW03 SSGW10 SSGW11 SSGW12 SSGW18 SSGW89	1.3 1.6 3.4 5.25 3.7 1.6	
	1234678-HpCDD	1.86	SSGW99	0.94	

Blank ID	Contaminant	Concentration Found in Blank (pg/L)	Associated Samples	Concentration Found in Sample (pg/L)	Qualifier/ Adjustment
MB	OCDD	<4.9	SSGW25 SSGW26 SSGW99	1.3 0.85 3.1	U
	23478-PeCDF	<0.79	SSGW03 SSGW11 SSGW12 SSGW18 SSGW24 SSGW26	0.88 0.96 1.2 0.65 0.7 0.57	
	123478-HxCDF	1.02	SSGW05 SSGW12	5.0 0.99	
	234678-HxCDF	<1.2	SSGW12	0.94	
	123789-HxCDF	1.36	SSGW03 SSGW04	0.95 1.8	
	1234678-HpCDF	<0.66	SSGW03 SSGW07 SSGW10 SSGW11 SSGW12 SSGW18	0.99 2.0 2.4 1.23 2.4 0.78	
	1234789-HpCDF	<1.2	SSGW03 SSGW12 SSGW25	1.07 1.9 0.97	
	OCDF	2.85	SSGW03 SSGW04 SSGW07 SSGW10 SSGW11 SSGW12 SSGW18 SSGW24	2.3 14.2 6.8 9.2 1.3 5.3 1.9 0.74	
	Total-HpCDD	1.86	SSGW99	0.94	
	Total-HxCDF	2.38	SSGW03 SSGW07 SSGW10 SSGW11 SSGW12	2.1 1.38 2.71 1.32 0.99	

8. SAMPLE RESULTS

The sample results were reviewed and all compound identifications were acceptable and met method requirements.

ORGANICS: Yes____ No__X__

Comments: The samples were analyzed on a DB-5MS column. Detected results for 2,3,7,8-TCDF were not confirmed by analysis on a DB-225 column or equivalent column.

Various detected results were flagged "R" by the laboratory indicating that the ion abundance ratios for these compounds did not meet acceptance criteria, Therefore, these "R" flagged results in samples SSGW03, SSGW04, SSGW05, SSGW07, SSGW08, SSGW10, SSGW11, SSGW12, SSGW18, SSGW24, SSGW25, SSGW26, SSGW89, and SSGW99 were qualified as estimated "J". [Note: The laboratory's "R" flag (for ion abundance ratios) is different from the validation "R" flag used for rejected results.]

9. ADDITIONAL COMMENTS OR PROBLEMS NOT ADDRESSED ABOVE

All problems/resolutions were addressed in the above sections.

ORGANICS: Yes X No____

Comments: None.

ORGANIC DATA QUALITY ASSURANCE REVIEW

Region VIII

DATA QUALIFIER DEFINITIONS

For the purpose of Data Validation, the following code letters and associated definitions are provided for use by the data validator to summarize the data quality.

GENERAL QUALIFIERS for use with both INORGANIC and ORGANIC DATA

R	-	Reported value is "rejected." Resampling or reanalysis may be necessary to verify the presence or absence of the compound.
J	-	The associated numerical value is an estimated quantity because the Quality Control criteria were not met.
U J	-	The reported quantitation limit is estimated because Quality Control criteria were not met. Element or compound was not detected.
N J	-	Estimated value of a tentatively identified compound. (Identified with a CAS number.) ORGANICS analysis only.
U	-	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

ALS Environmental

Sample Analysis summary Report

Sample Name	SSGW03	SSGW04	SSGW05	SSGW07	SSGW08	SSGW10
ALS Sample ID	L1081891-1	L1081891-2	L1081891-3	L1081891-4	L1081891-5	L1081891-6
Sample Size	0.99	0.87	0.80	0.94	0.97	0.96
Sample size units	Litres	Litres	Litres	Litres	Litres	Litres
Percent Moisture	n/a	n/a	n/a	n/a	n/a	n/a
Sample Matrix	WATER	WATER	WATER	WATER	WATER	WATER
Sampling Date	28-Oct-11	27-Oct-11	27-Oct-11	28-Oct-11	28-Oct-11	28-Oct-11
Extraction Date	18-Nov-11	18-Nov-11	18-Nov-11	18-Nov-11	18-Nov-11	18-Nov-11
Target Analytes	**pg/L**	**pg/L**	**pg/L**	**pg/L**	**pg/L**	**pg/L**
2,3,7,8-TCDD	<1.0	6.36	4.18	<1.5	<1.6	<1.4
1,2,3,7,8-PeCDD	<1.0	<8.2	4.57	<1.7	<2.3	<1.3
1,2,3,4,7,8-HxCDD	<0.75	4.96	<3.3	<1.9	<2.0	<0.93
1,2,3,6,7,8-HxCDD	<0.81	51.2	<23	<1.9	<1.9	<3.2
1,2,3,7,8,9-HxCDD	<1.3	<20	12.1	<1.9	<1.9	<1.6
1,2,3,4,6,7,8-HpCDD	<7.4	426	546	30.3	20.0	29.2
OCDD	28.4	2790	5150	395	57.2	214
2,3,7,8-TCDF	<0.97	35.9	29.8	<2.1	<2.6	<1.0
1,2,3,7,8-PeCDF	0.694	11.0	<4.6	<0.95	<1.3	<0.72
2,3,4,7,8-PeCDF	0.881	18.6	9.52	<0.89	<1.3	<0.65
1,2,3,4,7,8-HxCDF	<0.61	6.13	<5.0	<0.68	<0.61	<0.52
1,2,3,6,7,8-HxCDF	<0.60	6.70	<4.4	<0.68	<0.64	<0.53
2,3,4,6,7,8-HxCDF	<0.61	<7.1	<6.2	<0.74	<0.69	<0.56
1,2,3,7,8,9-HxCDF	0.948	1.76	<2.6	<0.95	<0.85	<0.71
1,2,3,4,6,7,8-HpCDF	<0.99	<14	52.1	<2.0	<0.95	<2.4
1,2,3,4,7,8,9-HpCDF	1.07	<3.9	<6.7	<1.4	<1.6	<1.1
OCDF	2.29	14.2	90.1	<6.8	<3.4	<9.2
Extraction Standards	**% Rec**	**% Rec**	**% Rec**	**% Rec**	**% Rec**	**% Rec**
13C12-2,3,7,8-TCDD	67	45	40	54	41	60
13C12-1,2,3,7,8-PeCDD	57	40	31	45	34	64
13C12-1,2,3,4,7,8-HxCDD	73	61	48	62	45	75
13C12-1,2,3,6,7,8-HxCDD	79	64	50	62	44	71
13C12-1,2,3,4,6,7,8-HpCDD	66	52	38	53	36	64
13C12-OCDD	64	42	31	50	31	54
13C12-2,3,7,8-TCDF	64	44	38	54	39	56
13C12-1,2,3,7,8-PeCDF	65	48	38	53	42	64
13C12-2,3,4,7,8-PeCDF	64	48	35	51	38	66
13C12-1,2,3,4,7,8-HxCDF	82	68	55	66	50	76
13C12-1,2,3,6,7,8-HxCDF	80	66	53	70	49	75
13C12-2,3,4,6,7,8-HxCDF	79	64	49	64	45	71
13C12-1,2,3,7,8,9-HxCDF	77	55	47	62	46	68
13C12-1,2,3,4,6,7,8-HpCDF	78	59	47	63	44	70
13C12-1,2,3,4,7,8,9-HpCDF	69	41	37	56	37	59
Cleanup Standard						
37Cl4-2,3,7,8-TCDD (Cleanup)	68	61	53	56	63	66
Homologue Group Totals	**pg/L**	**pg/L**	**pg/L**	**pg/L**	**pg/L**	**pg/L**
Total-TCDD	<1.0	152	4.18	<1.5	<1.6	<1.4
Total-PeCDD	<1.0	116	22.0	<1.7	<2.3	<1.3
Total-HxCDD	3.45	324	134	6.31	<2.0	16.4
Total-HpCDD	<1.0	749	1040	56.0	33.4	63.6
Total-TCDF	<0.97	317	98.7	2.21	<1.3	1.54
Total-PeCDF	1.58	136	61.8	<0.95	<1.3	<0.72
Total-HxCDF	2.10	20.4	78.7	1.38	<0.85	2.71
Total-HpCDF	1.33	23.6	156	<1.4	<1.6	9.89
Toxic Equivalency - (NATO)						
Lower Bound PCDD/F TEQ (NATO)	0.611	33.9	26.6	0.698	0.257	0.506
Mid Point PCDD/F TEQ (NATO)	2.76	40.9	31.4	4.00	3.94	3.52
Upper Bound PCDD/F TEQ (NATO)	2.76	40.9	31.4	4.67	4.87	3.87

ALS Environmental

Sample Analysis summary Report

Sample Name	SSGW11	SSGW12	SSGW18	SSGW24	SSGW25	SSGW26
ALS Sample ID	L1081891-9	L1081891-10	L1081891-11	L1081891-15	L1081891-16	L1081891-17
Sample Size	0.95	0.94	0.93	0.91	0.95	0.99
Sample size units	Litres	Litres	Litres	Litres	Litres	Litres
Percent Moisture	n/a	n/a	n/a	n/a	n/a	n/a
Sample Matrix	WATER	WATER	WATER	WATER	WATER	WATER
Sampling Date	28-Oct-11	29-Oct-11	27-Oct-11	29-Oct-11	29-Oct-11	29-Oct-11
Extraction Date	18-Nov-11	18-Nov-11	18-Nov-11	18-Nov-11	18-Nov-11	18-Nov-11
Target Analytes	**pg/L**	**pg/L**	**pg/L**	**pg/L**	**pg/L**	**pg/L**
2,3,7,8-TCDD	<1.4	<3.3	<1.5	<0.90	<0.68	<0.77
1,2,3,7,8-PeCDD	<1.5	1.63	<1.4	<0.69	<0.84	<0.71
1,2,3,4,7,8-HxCDD	<1.1	<1.3	<0.73	<0.52	<0.35	<0.37
1,2,3,6,7,8-HxCDD	<5.5	<7.6	<3.4	<0.72	<0.35	<0.38
1,2,3,7,8,9-HxCDD	<3.4	5.25	<3.7	<0.52	<0.36	<0.38
1,2,3,4,6,7,8-HpCDD	35.0	115	15.6	<0.80	<0.83	<0.87
OCDD	169	967	73.8	<2.1	<1.3	<0.85
2,3,7,8-TCDF	<1.6	<5.0	<1.7	<0.78	<0.77	<0.71
1,2,3,7,8-PeCDF	<0.95	<0.81	<0.55	<0.54	<0.54	<0.42
2,3,4,7,8-PeCDF	<0.96	<1.2	<0.65	<0.70	<0.46	0.567
1,2,3,4,7,8-HxCDF	<0.70	0.990	<0.56	<0.58	<0.33	<0.24
1,2,3,6,7,8-HxCDF	<0.70	<0.78	<0.56	<0.58	<0.35	<0.24
2,3,4,6,7,8-HxCDF	<0.74	<0.94	<0.60	<0.61	<0.34	<0.26
1,2,3,7,8,9-HxCDF	<0.96	<0.68	<0.79	<0.78	<0.44	<0.34
1,2,3,4,6,7,8-HpCDF	1.23	<2.4	0.783	<0.59	<0.56	<0.20
1,2,3,4,7,8,9-HpCDF	<0.57	<1.9	<0.93	<0.94	0.969	<0.33
OCDF	<1.3	<5.3	1.93	<0.74	<1.1	<0.80
Extraction Standards	**% Rec**	**% Rec**	**% Rec**	**% Rec**	**% Rec**	**% Rec**
13C12-2,3,7,8-TCDD	67	68	63	73	74	77
13C12-1,2,3,7,8-PeCDD	73	71	70	85	86	92
13C12-1,2,3,4,7,8-HxCDD	69	79	71	92	89	95
13C12-1,2,3,6,7,8-HxCDD	78	76	72	93	87	96
13C12-1,2,3,4,6,7,8-HpCDD	67	70	66	82	81	86
13C12-OCDD	62	64	60	75	77	85
13C12-2,3,7,8-TCDF	64	67	60	74	70	72
13C12-1,2,3,7,8-PeCDF	71	69	66	81	82	84
13C12-2,3,4,7,8-PeCDF	73	72	68	84	87	91
13C12-1,2,3,4,7,8-HxCDF	76	76	73	93	87	95
13C12-1,2,3,6,7,8-HxCDF	74	76	72	92	88	93
13C12-2,3,4,6,7,8-HxCDF	72	74	69	89	86	91
13C12-1,2,3,7,8,9-HxCDF	70	73	67	85	83	89
13C12-1,2,3,4,6,7,8-HpCDF	72	72	70	88	86	93
13C12-1,2,3,4,7,8,9-HpCDF	64	64	61	77	75	81
Cleanup Standard						
37Cl4-2,3,7,8-TCDD (Cleanup)	63	76	69	72	69	72
Homologue Group Totals	**pg/L**	**pg/L**	**pg/L**	**pg/L**	**pg/L**	**pg/L**
Total-TCDD	<1.4	<1.0	<1.5	<0.90	<0.68	<0.77
Total-PeCDD	<1.5	4.41	1.47	<0.69	<0.84	<0.71
Total-HxCDD	<1.1	37.8	18.3	<0.52	<0.36	<0.38
Total-HpCDD	35.0	241	15.6	<0.80	<0.83	<0.64
Total-TCDF	2.18	2.86	<1.7	<0.78	<0.77	<0.71
Total-PeCDF	<0.95	<0.81	1.64	<0.54	<0.54	0.614
Total-HxCDF	1.32	0.990	<0.79	<0.78	<0.44	<0.34
Total-HpCDF	1.23	<1.4	<0.93	<0.94	0.969	<0.33
Toxic Equivalency - (NATO)						
Lower Bound PCDD/F TEQ (NATO)	0.531	3.56	0.240	0.00	0.00969	0.284
Mid Point PCDD/F TEQ (NATO)	4.66	9.17	4.01	1.97	1.37	1.55
Upper Bound PCDD/F TEQ (NATO)	4.69	9.17	4.01	2.16	1.71	1.74

ALS Environmental

Sample Analysis summary Report

Sample Name	SSGW89	SSGW99	SSSW89
ALS Sample ID	L1081891-18	L1081891-19	L1081891-20
Sample Size	0.95	0.96	0.94
Sample size units	Litres	Litres	Litres
Percent Moisture	n/a	n/a	n/a
Sample Matrix	WATER	WATER	WATER
Sampling Date	29-Oct-11	29-Oct-11	29-Oct-11
Extraction Date	18-Nov-11	18-Nov-11	18-Nov-11
Target Analytes	**pg/L**	**pg/L**	**pg/L**
2,3,7,8-TCDD	<1.6	<1.0	<0.90
1,2,3,7,8-PeCDD	<1.4	<0.82	<0.84
1,2,3,4,7,8-HxCDD	<0.80	<0.69	<0.40
1,2,3,6,7,8-HxCDD	<3.5	<0.70	<0.42
1,2,3,7,8,9-HxCDD	<1.6	<0.70	<0.41
1,2,3,4,6,7,8-HpCDD	25.5	0.941	<0.82
OCDD	209	<3.1	<1.5
2,3,7,8-TCDF	<2.1	<0.66	<0.61
1,2,3,7,8-PeCDF	<0.88	<0.44	<0.35
2,3,4,7,8-PeCDF	<0.76	<0.40	<0.33
1,2,3,4,7,8-HxCDF	<0.49	<0.38	<0.30
1,2,3,6,7,8-HxCDF	<0.47	<0.37	<0.31
2,3,4,6,7,8-HxCDF	<0.52	<0.41	<0.35
1,2,3,7,8,9-HxCDF	<0.64	<0.49	<0.41
1,2,3,4,6,7,8-HpCDF	3.99	<0.37	<0.51
1,2,3,4,7,8,9-HpCDF	<0.73	<0.58	<0.82
OCDF	15.5	<1.2	<1.1
Extraction Standards	**% Rec**	**% Rec**	**% Rec**
13C12-2,3,7,8-TCDD	56	70	65
13C12-1,2,3,7,8-PeCDD	65	87	89
13C12-1,2,3,4,7,8-HxCDD	69	84	94
13C12-1,2,3,6,7,8-HxCDD	69	91	91
13C12-1,2,3,4,6,7,8-HpCDD	65	83	83
13C12-OCDD	62	81	74
13C12-2,3,7,8-TCDF	53	67	69
13C12-1,2,3,7,8-PeCDF	62	83	86
13C12-2,3,4,7,8-PeCDF	64	82	84
13C12-1,2,3,4,7,8-HxCDF	71	90	96
13C12-1,2,3,6,7,8-HxCDF	68	89	98
13C12-2,3,4,6,7,8-HxCDF	64	81	85
13C12-1,2,3,7,8,9-HxCDF	64	86	88
13C12-1,2,3,4,6,7,8-HpCDF	67	90	89
13C12-1,2,3,4,7,8,9-HpCDF	61	80	78
Cleanup Standard			
37Cl4-2,3,7,8-TCDD (Cleanup)	69	65	66
Homologue Group Totals	**pg/L**	**pg/L**	**pg/L**
Total-TCDD	<1.6	<1.0	<0.90
Total-PeCDD	<1.4	<0.82	<0.84
Total-HxCDD	<0.85	<0.70	<0.42
Total-HpCDD	51.9	0.941	<0.82
Total-TCDF	<2.1	<0.66	<0.61
Total-PeCDF	<0.88	<0.44	<0.35
Total-HxCDF	<0.64	<0.49	<0.41
Total-HpCDF	15.1	<0.58	<0.82
Toxic Equivalency - (NATO)			
Lower Bound PCDD/F TEQ (NATO)	0.519	0.00941	0.00
Mid Point PCDD/F TEQ (NATO)	3.87	2.10	1.76
Upper Bound PCDD/F TEQ (NATO)	4.26	2.10	1.85

ALS Environmental

Quality Control Summary Report

Sample Name	Method Blank	LCS	Matrix Spike	Matrix Spike Duplicate
ALS Sample ID	WG1388882-1	WG1388882-2	WG1388882-4	WG1388882-5
Sample Size	1.00	1.00	0.93	0.93
Sample size units	Litres	n/a	n/a	n/a
Percent Moisture	n/a	n/a	n/a	n/a
Sample Matrix	QC	QC	QC	QC
Sampling Date	n/a	n/a	n/a	n/a
Extraction Date	18-Nov-11	18-Nov-11	18-Nov-11	18-Nov-11
Target Analytes	**pg/L**	**% Rec**	**% Rec**	**% Rec**
2,3,7,8-TCDD	<0.97	88	87	87
1,2,3,7,8-PeCDD	<0.73	101	100	93
1,2,3,4,7,8-HxCDD	<0.65	97	99	95
1,2,3,6,7,8-HxCDD	<0.99	99	101	95
1,2,3,7,8,9-HxCDD	<1.1	96	97	94
1,2,3,4,6,7,8-HpCDD	1.86	98	98	92
OCDD	<4.9	96	95	93
2,3,7,8-TCDF	<0.84	91	93	98
1,2,3,7,8-PeCDF	<0.54	95	95	90
2,3,4,7,8-PeCDF	<0.79	96	95	90
1,2,3,4,7,8-HxCDF	1.02	95	95	92
1,2,3,6,7,8-HxCDF	<0.28	97	97	95
2,3,4,6,7,8-HxCDF	<1.2	99	98	95
1,2,3,7,8,9-HxCDF	1.36	97	97	92
1,2,3,4,6,7,8-HpCDF	<0.66	94	96	92
1,2,3,4,7,8,9-HpCDF	<1.2	96	95	91
OCDF	2.85	96	92	84
Extraction Standards	**% Rec**	**% Rec**	**% Rec**	**% Rec**
13C12-2,3,7,8-TCDD	72	77	53	65
13C12-1,2,3,7,8-PeCDD	62	67	45	67
13C12-1,2,3,4,7,8-HxCDD	87	95	59	72
13C12-1,2,3,6,7,8-HxCDD	93	95	62	73
13C12-1,2,3,4,6,7,8-HpCDD	83	92	50	71
13C12-OCDD	82	101	43	66
13C12-2,3,7,8-TCDF	70	76	49	61
13C12-1,2,3,7,8-PeCDF	72	75	53	65
13C12-2,3,4,7,8-PeCDF	68	75	50	68
13C12-1,2,3,4,7,8-HxCDF	97	95	68	75
13C12-1,2,3,6,7,8-HxCDF	94	101	65	72
13C12-2,3,4,6,7,8-HxCDF	89	96	63	70
13C12-1,2,3,7,8,9-HxCDF	91	95	60	70
13C12-1,2,3,4,6,7,8-HpCDF	93	100	59	73
13C12-1,2,3,4,7,8,9-HpCDF	85	96	51	68
Cleanup Standard				
37Cl4-2,3,7,8-TCDD (Cleanup)	67	70	63	70
Homologue Group Totals	**pg/L**			
Total-TCDD	<0.97			
Total-PeCDD	<0.73			
Total-HxCDD	<0.49			
Total-HpCDD	1.86			
Total-TCDF	<0.84			
Total-PeCDF	<0.54			
Total-HxCDF	2.38			
Total-HpCDF	<0.77			
Toxic Equivalency - (NATO)				
Lower Bound PCDD/F TEQ (NATO)	0.259			
Mid Point PCDD/F TEQ (NATO)	1.81			
Upper Bound PCDD/F TEQ (NATO)	2.55			

REGION VIII
DATA VALIDATION REPORT
ORGANICS – DIOXINS/FURANS

TDD No.	Site Name		Operable Unit
1109-07	Smurfit Stone Mill		
RPM/OSC Name			
Robert Parker			
Contractor Laboratory	**Contract No.**	**SDG No.**	**Laboratory DPO/Region**
ALS Laboratory Group		WG1384708	

Review Assigned Date: February 9, 2012 Data Validator: Lisa Tyson
Review Completion Date: February 24, 2012 Report Reviewer: Bill Fear

Sample ID	Matrix	Analysis
SSSE01	Soil	Dioxins and Furans by Method 8290A
SSSE02		
SSSE03		
SSSE04		
SSSE05		
SSSE06		
SSSE07		
SSSO0102		
SSSO0202		
SSSO0302		
SSSO0402		
SSSO0502		
SSSO0602		
SSSO0702		
SSSO0716		
SSSO0802		

Sample ID	Matrix	Analysis
SSSO0816	Soil	Dioxins and Furans by Method 8290A
SSSO1302		
SSSO1502		
SSSO1602		

DATA QUALITY STATEMENT

( ) Data are ACCEPTABLE according to EPA Functional Guidelines with no qualifiers (flags) added by the reviewer.
( ) Data are UNACCEPTABLE according to EPA Functional Guidelines.
(X) Data are acceptable with QUALIFICATIONS noted in review.

PO Attention Required? Yes _____ No ___X__ If yes, list the items that require attention:

ORGANIC DATA VALIDATION REPORT

REVIEW NARRATIVE SUMMARY

This data package was reviewed according to the "National Functional Guidelines for Chlorinated Dibenzo-p-Dioxins (CDDs) and Chlorinated Dibenzofurans (CDFs) Data Review," September 2011, modified for the method used.

Raw data were reviewed for completeness and transcription accuracy onto the summary forms. Approximately 10-20% of the results reported in each of the samples, calibrations, and QC analyses were recalculated and verified. If problems were identified during the recalculation of results, a more thorough calculation check was performed.

Data package WG1384708 consisted of 20 soil samples for dioxin and furan analyses by Method 8290A.

The following tables list data qualifiers added to the data. (Please see Data Qualifier Definitions, attached to the end of this report.)

Sample Number	Compound	Qualifier	Reason For Qualification	Review Section
SSSE04	OCDD Total HpCDF 1234678-HpCDD	U	Blank contamination	7
SSSO0202, SSSO0302, SSSO0402, SSSO1602, SSSE01, SSSE02, SSSE03, SSSE05, SSSE07	123478-HxCDF			
SSSO0202, SSSO0302, SSSO0402, SSSO0716, SSSO1502, SSSO1602, SSSE01, SSSE02, SSSE03, SSSE05, SSSE07	123678-HxCDF			
SSSO0202, SSSO0302, SSSO0402, SSSE02, SSSE03, SSSE05, SSSE07	234678-HxCDF			
SSSO0202, SSSO0302, SSSO0402, SSSE03	123789-HxCDF			
SSSO0202, SSSO0402, SSSE01, SSSE03, SSSE07	1234789-HpCDF			
SSSO0202, SSSE05	Total HxCDF			
SSSE01, SSSE02, SSSE03, SSSE04, SSSE05, SSSE06, SSSE07, SSSO0102, SSSO0202, SSSO0302, SSSO0402, SSSO0802, SSSO1302, SSSO1502, SSSO1602	All "R' flagged results	J	Compounds did not meet ion abundance ratios	9

Note: The laboratory's "R" flag (for ion abundance ratios) is different from the validation "R" flag used for rejected results.

1. DELIVERABLES

All deliverables were present.

ORGANICS: Yes X No____

Comments: None.

2. HOLDING TIMES AND PRESERVATION CRITERIA

All holding times and preservation criteria were met.

ORGANICS: Yes X No____

Comments: The soil samples were extracted within 30 days of sample collection and all extracts were analyzed within 45 days of sample extraction. The chain-of-custody records indicated that sample coolers were received within the recommended temperature range of 4 ± 2 °C, or slightly outside that range.

Chain-of-custody, summary forms, and raw data were evaluated.

3. MASS RESOLUTION AND COLUMN PERFORMANCE RESULTS

The mass resolution and column performance check results were within the specified control limits. All appropriate results were included.

ORGANICS: Yes X No____

Comments: None.

4. INSTRUMENT CALIBRATIONS: INITIAL AND CONTINUING STANDARDS

Initial instrument calibrations were performed according to method requirements and met control limits.

ORGANICS: Yes X No____

Comments: Percent relative standard deviations (%RSDs) of the relative response factors (RRFs) were less than the method criteria of 20% for the unlabeled target compounds and less than 20% for the labeled internal standards. All ion abundance ratios were within method control limits for the initial calibration.

Continuing (routine) calibrations were performed according to method requirements and met control limits.

ORGANICS: Yes X No____

Comments: The continuing verification calibration standards were analyzed at the beginning and end of each 12-hour period. The percent differences (%Ds) were less than the method criteria of 20% for the unlabeled target compounds (25% if an ending standard) and 30% for the labeled internal standards (35% for an ending standard). All ion abundance ratios were within method control limits for the continuing calibrations.

5. MATRIX SPIKE/MATRIX SPIKE DUPLICATE/LABORATORY CONTROL SAMPLES

Matrix Spike/Matrix Spike Duplicate (MS/MSD) and laboratory control sample/laboratory control sample duplicate (LCS/LCSD) analyses were performed according to method requirements and results met recommended recovery and precision limits.

ORGANICS: Yes____ No X

Comments: MS/MSD analyses were performed on sample SSSO1302. The percent recoveries for OCDD (44%/34%) and OCDF (79%-MS) were below laboratory QC limits of 80-120%. According to the case narrative, the sample contained pieces of black malleable material that left a sooty residue on contact. PCDD/F targets are retained by carbon and it is possible that sample inhomogeneity with respect to the black material may be responsible for the recoveries not being met. No qualification is taken on organic data based solely on MS/MSD results. A laboratory control sample (LCS) analysis was also performed. The percent recoveries were within laboratory QC limits. Summary forms and raw data were evaluated.

6. INTERNAL STANDARD AREA

Internal standard area analysis was performed according to method requirements and results met specified control limits.

ORGANICS: Yes X No____

Comments: Internal standards and cleanup standards were included. The percent recoveries were within QC limits. Summary forms and raw data were evaluated.

7. LABORATORY BLANK ANALYSIS RESULTS

The laboratory blank analysis was performed according to method requirements and results met specified limits.

ORGANICS: Yes____ No X

Comments: Method blanks were extracted at the correct frequency. Summary forms and raw data were evaluated.

The following table summarizes the blanks that resulted in qualification (sample results less than five times the blank value adjusted for sample amount).

Blank ID	Contaminant	Concentration Found in Blank (pg/g)	Associated Samples	Concentration Found in Sample (pg/g)	Qualifier/ Adjustment
MB	OCDD	<0.29	SSSE04	1.05	U
	123478-HxCDF	0.0184	SSSO0202 SSSO0302 SSSO0402 SSSO1602 SSSE01 SSSE02 SSSE03 SSSE05 SSSE07	0.06 0.07 0.14 0.11 0.13 0.07 0.11 0.04 0.02	
	123678-HxCDF	0.0495	SSSO0202 SSSO0302 SSSO0402 SSSO0716 SSSO1502 SSSO1602 SSSE01 SSSE02 SSSE03 SSSE05 SSSE07	0.04 0.07 0.07 0.63 0.42 0.07 0.08 0.06 0.05 0.02 0.02	
	234678-HxCDF	<0.022	SSSO0202 SSSO0302 SSSO0402 SSSE02 SSSE03 SSSE05 SSSE07	0.06 0.05 0.11 0.08 0.08 0.02 0.02	
	123789-HxCDF	<0.045	SSSO0202 SSSO0302 SSSO0402 SSSE03	0.03 0.03 0.1 0.03	
	1234789-HpCDF	0.104	SSSO0202 SSSO0402 SSSE01 SSSE03 SSSE07	0.03 0.11 0.11 0.08 0.03	
	Total HxCDF	0.0679	SSSO0202 SSSE05	0.2 0.25	
	Total HpCDF	0.104	SSSE04	0.04	
	1234678-HpCDD	0.067	SSSE04	0.06	

8. SAMPLE RESULTS

The sample results were reviewed and all compound identifications were acceptable and met method requirements.

ORGANICS: Yes____ No__X__

Comments: The samples were analyzed on a DB-5MS column. Detected results for 2,3,7,8-TCDF were not confirmed by analysis on a DB-225 column or equivalent column.

Various detected results were flagged "R" by the laboratory indicating that the ion abundance ratios for these compounds did not meet acceptance criteria, Therefore, these "R" flagged results in samples SSSE01, SSSE02, SSSE03, SSSE04, SSSE05, SSSE06, SSSE07, SSSO0102, SSSO0202, SSSO0302, SSSO0402, SSSO0802, SSSO1302, SSSO1502, and SSSO1602 were qualified as estimated "J". [Note: The laboratory's "R" flag (for ion abundance ratios) is different from the validation "R" flag used for rejected results.]

9. ADDITIONAL COMMENTS OR PROBLEMS NOT ADDRESSED ABOVE

All problems/resolutions were addressed in the above sections.

ORGANICS: Yes__X__ No____

Comments: None.

ORGANIC DATA QUALITY ASSURANCE REVIEW

Region VIII

DATA QUALIFIER DEFINITIONS

For the purpose of Data Validation, the following code letters and associated definitions are provided for use by the data validator to summarize the data quality.

GENERAL QUALIFIERS for use with both INORGANIC and ORGANIC DATA

R	-	Reported value is "rejected." Resampling or reanalysis may be necessary to verify the presence or absence of the compound.
J	-	The associated numerical value is an estimated quantity because the Quality Control criteria were not met.
U J	-	The reported quantitation limit is estimated because Quality Control criteria were not met. Element or compound was not detected.
N J	-	Estimated value of a tentatively identified compound. (Identified with a CAS number.) ORGANICS analysis only.
U	-	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

ALS Environmental

Sample Analysis summary Report

Sample Name	SSSO0102	SSSO0202	SSSO0302	SSSO0402	SSSO0502	SSSO0602
ALS Sample ID	L1080162-1	L1080162-2	L1080162-3	L1080162-4	L1080162-5	L1080162-6
Sample Size	17.13	16.74	17.11	16.62	15.70	9.79
Sample size units	grams	grams	grams	grams	grams	grams
Percent Moisture	16.70%	21.90%	14.70%	17.90%	21.80%	51.80%
Sample Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sampling Date	26-Oct-11	25-Oct-11	25-Oct-11	25-Oct-11	25-Oct-11	25-Oct-11
Extraction Date	10-Nov-11	10-Nov-11	10-Nov-11	10-Nov-11	10-Nov-11	10-Nov-11
Target Analytes	**pg/g**	**pg/g**	**pg/g**	**pg/g**	**pg/g**	**pg/g**
2,3,7,8-TCDD	<0.049	<0.037	<0.059	<0.075	4.72	22.4
1,2,3,7,8-PeCDD	0.382	<0.084	0.107	<0.095	13.4	73.4
1,2,3,4,7,8-HxCDD	<0.69	<0.079	<0.080	<0.11	8.60	46.9
1,2,3,6,7,8-HxCDD	1.54	<0.15	<0.12	<0.22	11.4	67.7
1,2,3,7,8,9-HxCDD	1.67	<0.21	<0.16	0.316	10.8	59.9
1,2,3,4,6,7,8-HpCDD	40.6	3.46	2.85	4.24	48.5	311
OCDD	310	25.9	18.7	59.5	85.3	687
2,3,7,8-TCDF	<1.3	<0.051	<0.10	<0.19	34.4	164
1,2,3,7,8-PeCDF	0.684	0.0492	0.160	0.109	19.0	88.8
2,3,4,7,8-PeCDF	0.825	0.0755	<0.090	<0.096	29.7	148
1,2,3,4,7,8-HxCDF	1.50	<0.065	<0.075	<0.14	9.94	45.8
1,2,3,6,7,8-HxCDF	0.678	<0.047	0.0711	<0.077	12.7	58.4
2,3,4,6,7,8-HxCDF	0.830	0.0685	<0.052	<0.11	15.7	72.7
1,2,3,7,8,9-HxCDF	0.306	<0.033	<0.039	0.0995	5.49	25.5
1,2,3,4,6,7,8-HpCDF	10.9	<0.63	<0.57	2.14	12.5	60.0
1,2,3,4,7,8,9-HpCDF	0.946	<0.036	<0.040	<0.11	4.72	20.2
OCDF	26.7	1.89	2.28	21.4	5.31	24.7
Extraction Standards	**% Rec**	**% Rec**	**% Rec**	**% Rec**	**% Rec**	**% Rec**
13C12-2,3,7,8-TCDD	78	78	73	77	77	79
13C12-1,2,3,7,8-PeCDD	88	84	81	82	81	79
13C12-1,2,3,4,7,8-HxCDD	85	90	84	90	89	90
13C12-1,2,3,6,7,8-HxCDD	89	89	81	83	90	83
13C12-1,2,3,4,6,7,8-HpCDD	75	81	77	76	83	77
13C12-OCDD	73	82	78	74	83	77
13C12-2,3,7,8-TCDF	74	76	74	76	80	76
13C12-1,2,3,7,8-PeCDF	94	92	87	89	92	87
13C12-2,3,4,7,8-PeCDF	93	89	88	87	89	87
13C12-1,2,3,4,7,8-HxCDF	94	97	86	92	97	91
13C12-1,2,3,6,7,8-HxCDF	88	90	85	88	90	90
13C12-2,3,4,6,7,8-HxCDF	88	89	83	86	90	88
13C12-1,2,3,7,8,9-HxCDF	92	95	88	90	95	92
13C12-1,2,3,4,6,7,8-HpCDF	88	90	86	90	91	87
13C12-1,2,3,4,7,8,9-HpCDF	77	85	77	77	84	81
Cleanup Standard						
37Cl4-2,3,7,8-TCDD (Cleanup)	69	70	67	69	68	71
Homologue Group Totals	**pg/g**	**pg/g**	**pg/g**	**pg/g**	**pg/g**	**pg/g**
Total-TCDD	0.178	1.24	0.882	0.565	278	2320
Total-PeCDD	1.34	<0.072	0.302	0.0979	208	1570
Total-HxCDD	7.94	0.515	0.871	1.21	169	1130
Total-HpCDD	72.1	6.56	5.05	8.78	83.4	541
Total-TCDF	30.5	3.49	1.12	2.49	647	3210
Total-PeCDF	18.1	0.308	0.437	1.04	274	1370
Total-HxCDF	16.4	0.205	0.601	1.21	124	592
Total-HpCDF	29.9	<0.031	0.742	4.64	32.2	150
Toxic Equivalency - (NATO)						
Lower Bound PCDD/F TEQ (NATO)	2.15	0.109	0.118	0.192	38.9	196
Mid Point PCDD/F TEQ (NATO)	2.40	0.259	0.291	0.448	38.9	196
Upper Bound PCDD/F TEQ (NATO)	2.40	0.259	0.291	0.448	38.9	196

ALS Environmental

Sample Analysis summary Report

Sample Name	SSSO0702	SSSO0716	SSSO0802	SSSO0816	SSSO1502	SSSO1602
ALS Sample ID	L1080162-7	L1080162-8	L1080162-9	L1080162-10	L1080162-11	L1080162-12
Sample Size	6.43	8.88	9.21	6.79	13.52	15.58
Sample size units	grams	grams	grams	grams	grams	grams
Percent Moisture	70.20%	57.60%	59.00%	66.20%	37.40%	27.00%
Sample Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sampling Date	26-Oct-11	26-Oct-11	26-Oct-11	26-Oct-11	25-Oct-11	25-Oct-11
Extraction Date	10-Nov-11	10-Nov-11	10-Nov-11	10-Nov-11	10-Nov-11	10-Nov-11
Target Analytes	**pg/g**	**pg/g**	**pg/g**	**pg/g**	**pg/g**	**pg/g**
2,3,7,8-TCDD	34.3	11.8	<1.8	11.6	4.76	1.14
1,2,3,7,8-PeCDD	92.7	0.917	5.51	1.34	3.61	0.589
1,2,3,4,7,8-HxCDD	58.8	0.783	<0.62	1.81	<1.5	0.204
1,2,3,6,7,8-HxCDD	78.1	11.5	95.5	24.9	15.0	2.88
1,2,3,7,8,9-HxCDD	69.4	5.19	41.9	12.1	10.3	1.93
1,2,3,4,6,7,8-HpCDD	299	81.7	54.4	148	67.4	13.2
OCDD	341	939	279	1260	311	61.7
2,3,7,8-TCDF	317	25.7	19.7	33.8	7.98	2.84
1,2,3,7,8-PeCDF	156	0.964	4.62	1.43	0.471	<0.11
2,3,4,7,8-PeCDF	237	1.70	6.25	1.77	0.756	0.206
1,2,3,4,7,8-HxCDF	76.2	1.06	<1.3	<1.5	0.450	<0.11
1,2,3,6,7,8-HxCDF	95.2	0.632	1.97	<1.5	0.417	<0.075
2,3,4,6,7,8-HxCDF	122	0.618	<1.9	<1.6	0.618	0.192
1,2,3,7,8,9-HxCDF	44.4	<0.43	<0.64	<1.7	<0.22	<0.085
1,2,3,4,6,7,8-HpCDF	95.9	8.50	2.85	8.04	3.16	0.918
1,2,3,4,7,8,9-HpCDF	35.9	<1.2	<0.68	<2.3	<0.34	<0.16
OCDF	40.2	114	4.31	41.9	7.61	<1.5
Extraction Standards	**% Rec**	**% Rec**	**% Rec**	**% Rec**	**% Rec**	**% Rec**
13C12-2,3,7,8-TCDD	87	80	76	73	80	75
13C12-1,2,3,7,8-PeCDD	81	61	58	52	65	66
13C12-1,2,3,4,7,8-HxCDD	89	100	92	91	96	90
13C12-1,2,3,6,7,8-HxCDD	89	84	81	64	88	85
13C12-1,2,3,4,6,7,8-HpCDD	70	89	78	85	70	81
13C12-OCDD	55	89	73	88	52	72
13C12-2,3,7,8-TCDF	80	76	77	72	80	75
13C12-1,2,3,7,8-PeCDF	90	64	65	57	76	74
13C12-2,3,4,7,8-PeCDF	91	62	64	54	71	72
13C12-1,2,3,4,7,8-HxCDF	99	91	93	92	101	92
13C12-1,2,3,6,7,8-HxCDF	91	82	86	78	98	88
13C12-2,3,4,6,7,8-HxCDF	91	84	90	79	95	89
13C12-1,2,3,7,8,9-HxCDF	93	87	90	83	92	90
13C12-1,2,3,4,6,7,8-HpCDF	83	88	86	83	82	90
13C12-1,2,3,4,7,8,9-HpCDF	69	87	82	87	71	86
Cleanup Standard						
37Cl4-2,3,7,8-TCDD (Cleanup)	84	75	66	58	75	68
Homologue Group Totals	**pg/g**	**pg/g**	**pg/g**	**pg/g**	**pg/g**	**pg/g**
Total-TCDD	1450	11.8	39.4	11.6	10.3	1.32
Total-PeCDD	1180	4.83	26.0	2.55	31.5	2.24
Total-HxCDD	915	63.3	556	157	101	17.7
Total-HpCDD	514	152	103	259	137	25.7
Total-TCDF	5840	84.5	233	81.4	37.1	8.49
Total-PeCDF	2360	12.4	63.2	8.75	7.30	1.36
Total-HxCDF	1020	11.3	12.0	3.33	4.95	1.72
Total-HpCDF	254	45.4	6.29	28.8	8.33	1.89
Toxic Equivalency - (NATO)						
Lower Bound PCDD/F TEQ (NATO)	298	19.7	22.9	23.3	11.5	2.54
Mid Point PCDD/F TEQ (NATO)	298	19.7	25.1	23.7	11.6	2.58
Upper Bound PCDD/F TEQ (NATO)	298	19.7	25.1	24.0	11.6	2.58

ALS Environmental

Sample Analysis summary Report

Sample Name	SSSE01	SSSE02	SSSE03	SSSE04	SSSE05	SSSE06
ALS Sample ID	L1080162-13	L1080162-14	L1080162-15	L1080162-16	L1080162-17	L1080162-18
Sample Size	13.05	13.31	17.03	27.29	16.77	16.71
Sample size units	grams	grams	grams	grams	grams	grams
Percent Moisture	42.20%	40.70%	23.80%	10.00%	28.20%	25.30%
Sample Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sampling Date	24-Oct-11	24-Oct-11	24-Oct-11	24-Oct-11	24-Oct-11	24-Oct-11
Extraction Date	10-Nov-11	10-Nov-11	10-Nov-11	10-Nov-11	10-Nov-11	10-Nov-11
Target Analytes	**pg/g**	**pg/g**	**pg/g**	**pg/g**	**pg/g**	**pg/g**
2,3,7,8-TCDD	<0.056	<0.054	0.355	<0.021	<0.053	<0.040
1,2,3,7,8-PeCDD	<0.16	0.0847	0.0882	<0.034	<0.051	<0.049
1,2,3,4,7,8-HxCDD	<0.20	<0.062	<0.14	<0.019	0.0633	<0.040
1,2,3,6,7,8-HxCDD	<0.35	0.281	0.270	<0.019	<0.12	<0.040
1,2,3,7,8,9-HxCDD	<0.42	<0.064	0.201	<0.019	<0.065	<0.041
1,2,3,4,6,7,8-HpCDD	14.9	6.23	7.67	<0.062	2.34	0.698
OCDD	101	49.7	69.4	1.05	15.9	4.53
2,3,7,8-TCDF	<0.11	<0.11	0.103	<0.021	<0.11	<0.060
1,2,3,7,8-PeCDF	<0.076	<0.059	<0.031	<0.017	<0.030	<0.031
2,3,4,7,8-PeCDF	<0.12	<0.082	<0.073	0.0167	0.0584	<0.028
1,2,3,4,7,8-HxCDF	<0.13	<0.070	0.117	<0.016	<0.043	<0.027
1,2,3,6,7,8-HxCDF	<0.081	<0.060	<0.057	<0.016	<0.025	<0.028
2,3,4,6,7,8-HxCDF	<0.055	<0.087	<0.088	<0.017	<0.025	<0.028
1,2,3,7,8,9-HxCDF	<0.065	<0.051	<0.030	<0.020	<0.012	<0.032
1,2,3,4,6,7,8-HpCDF	2.94	1.18	1.41	0.0485	<0.44	<0.11
1,2,3,4,7,8,9-HpCDF	0.114	<0.12	<0.085	<0.0089	<0.026	<0.024
OCDF	14.4	5.06	4.83	<0.10	1.34	<0.29
Extraction Standards	**% Rec**	**% Rec**	**% Rec**	**% Rec**	**% Rec**	**% Rec**
13C12-2,3,7,8-TCDD	78	76	79	73	76	72
13C12-1,2,3,7,8-PeCDD	91	78	87	80	80	73
13C12-1,2,3,4,7,8-HxCDD	89	92	98	92	91	86
13C12-1,2,3,6,7,8-HxCDD	92	93	90	89	90	82
13C12-1,2,3,4,6,7,8-HpCDD	80	93	88	87	87	82
13C12-OCDD	76	87	86	90	89	82
13C12-2,3,7,8-TCDF	81	75	79	70	72	70
13C12-1,2,3,7,8-PeCDF	101	83	88	80	82	75
13C12-2,3,4,7,8-PeCDF	100	81	91	83	83	76
13C12-1,2,3,4,7,8-HxCDF	99	90	96	89	89	83
13C12-1,2,3,6,7,8-HxCDF	93	88	93	86	88	80
13C12-2,3,4,6,7,8-HxCDF	93	89	90	85	87	79
13C12-1,2,3,7,8,9-HxCDF	94	91	92	87	88	83
13C12-1,2,3,4,6,7,8-HpCDF	92	95	96	92	94	87
13C12-1,2,3,4,7,8,9-HpCDF	86	91	90	89	88	81
Cleanup Standard						
37Cl4-2,3,7,8-TCDD (Cleanup)	67	70	74	66	70	72
Homologue Group Totals	**pg/g**	**pg/g**	**pg/g**	**pg/g**	**pg/g**	**pg/g**
Total-TCDD	<0.056	0.322	0.522	<0.021	<0.053	<0.040
Total-PeCDD	0.122	0.0847	0.286	<0.034	<0.051	<0.049
Total-HxCDD	2.10	1.11	0.470	<0.019	0.439	<0.041
Total-HpCDD	29.4	11.8	18.4	0.0760	4.56	1.32
Total-TCDF	2.88	4.14	1.06	<0.021	0.172	<0.060
Total-PeCDF	0.945	0.796	0.314	<0.017	0.178	<0.031
Total-HxCDF	2.19	0.680	1.96	<0.020	0.251	<0.032
Total-HpCDF	7.64	3.33	4.39	0.0485	<0.026	<0.024
Toxic Equivalency - (NATO)						
Lower Bound PCDD/F TEQ (NATO)	0.295	0.199	0.633	0.00989	0.0762	0.0115
Mid Point PCDD/F TEQ (NATO)	0.636	0.319	0.704	0.0553	0.201	0.110
Upper Bound PCDD/F TEQ (NATO)	0.636	0.349	0.704	0.0642	0.201	0.123

ALS Environmental

Sample Analysis summary Report

Sample Name	SSSE07	SSSO1302
ALS Sample ID	L1080162-19	L1081891-28
Sample Size	22.58	11.23
Sample size units	grams	grams
Percent Moisture	16.00%	44.10%
Sample Matrix	SOIL	SOIL
Sampling Date	24-Oct-11	24-Oct-11
Extraction Date	10-Nov-11	10-Nov-11
Target Analytes	**pg/g**	**pg/g**
2,3,7,8-TCDD	<0.042	1.22
1,2,3,7,8-PeCDD	<0.045	<1.0
1,2,3,4,7,8-HxCDD	<0.039	<1.1
1,2,3,6,7,8-HxCDD	0.151	4.24
1,2,3,7,8,9-HxCDD	0.101	1.88
1,2,3,4,6,7,8-HpCDD	1.69	72.7
OCDD	11.9	678
2,3,7,8-TCDF	<0.059	5.58
1,2,3,7,8-PeCDF	<0.026	<1.4
2,3,4,7,8-PeCDF	0.0479	2.18
1,2,3,4,7,8-HxCDF	<0.027	<0.89
1,2,3,6,7,8-HxCDF	<0.029	<0.90
2,3,4,6,7,8-HxCDF	<0.021	1.15
1,2,3,7,8,9-HxCDF	<0.021	<1.1
1,2,3,4,6,7,8-HpCDF	0.361	6.81
1,2,3,4,7,8,9-HpCDF	<0.034	1.62
OCDF	1.18	21.0
Extraction Standards	**% Rec**	**% Rec**
13C12-2,3,7,8-TCDD	74	74
13C12-1,2,3,7,8-PeCDD	69	51
13C12-1,2,3,4,7,8-HxCDD	87	94
13C12-1,2,3,6,7,8-HxCDD	88	76
13C12-1,2,3,4,6,7,8-HpCDD	72	76
13C12-OCDD	62	64
13C12-2,3,7,8-TCDF	71	68
13C12-1,2,3,7,8-PeCDF	75	50
13C12-2,3,4,7,8-PeCDF	72	53
13C12-1,2,3,4,7,8-HxCDF	95	91
13C12-1,2,3,6,7,8-HxCDF	89	71
13C12-2,3,4,6,7,8-HxCDF	85	77
13C12-1,2,3,7,8,9-HxCDF	85	77
13C12-1,2,3,4,6,7,8-HpCDF	80	77
13C12-1,2,3,4,7,8,9-HpCDF	72	73
Cleanup Standard		
37Cl4-2,3,7,8-TCDD (Cleanup)	61	61
Homologue Group Totals	**pg/g**	**pg/g**
Total-TCDD	<0.042	6.84
Total-PeCDD	0.0638	7.67
Total-HxCDD	0.268	6.12
Total-HpCDD	3.75	139
Total-TCDF	<0.059	73.9
Total-PeCDF	0.0479	24.8
Total-HxCDF	<0.021	10.5
Total-HpCDF	0.809	19.8
Toxic Equivalency - (NATO)		
Lower Bound PCDD/F TEQ (NATO)	0.0827	5.11
Mid Point PCDD/F TEQ (NATO)	0.168	6.07
Upper Bound PCDD/F TEQ (NATO)	0.168	6.07

ALS Environmental

Quality Control Summary Report

Sample Name	Method Blank	LCS	Matrix Spike	Matrix Spike Duplicate
ALS Sample ID	WG1384708-1	WG1384708-2	WG1384708-4	WG1384708-5
Sample Size	15.00	1.00	11.28	11.79
Sample size units	grams	n/a	n/a	n/a
Percent Moisture	n/a	n/a	43.80%	41.90%
Sample Matrix	QC	QC	QC	QC
Sampling Date	n/a	n/a	n/a	n/a
Extraction Date	10-Nov-2011	10-Nov-2011	10-Nov-2011	10-Nov-2011
Target Analytes	**pg/g**	**% Rec**	**% Rec**	**% Rec**
2,3,7,8-TCDD	<0.032	89	86	88
1,2,3,7,8-PeCDD	<0.069	98	91	92
1,2,3,4,7,8-HxCDD	<0.031	95	87	94
1,2,3,6,7,8-HxCDD	<0.031	97	89	93
1,2,3,7,8,9-HxCDD	<0.031	95	89	81
1,2,3,4,6,7,8-HpCDD	<0.067	96	90	102
OCDD	<0.29	94	44	34
2,3,7,8-TCDF	<0.036	96	103	100
1,2,3,7,8-PeCDF	<0.046	93	86	89
2,3,4,7,8-PeCDF	<0.041	92	86	90
1,2,3,4,7,8-HxCDF	0.0184	92	89	92
1,2,3,6,7,8-HxCDF	0.0495	95	91	92
2,3,4,6,7,8-HxCDF	<0.022	94	91	98
1,2,3,7,8,9-HxCDF	<0.045	92	91	92
1,2,3,4,6,7,8-HpCDF	<0.026	93	88	89
1,2,3,4,7,8,9-HpCDF	0.104	96	89	88
OCDF	<0.11	89	79	83
Extraction Standards	**% Rec**	**% Rec**	**% Rec**	**% Rec**
13C12-2,3,7,8-TCDD	71	74	80	76
13C12-1,2,3,7,8-PeCDD	75	73	66	58
13C12-1,2,3,4,7,8-HxCDD	85	87	99	97
13C12-1,2,3,6,7,8-HxCDD	88	87	82	104
13C12-1,2,3,4,6,7,8-HpCDD	74	79	79	75
13C12-OCDD	69	78	71	64
13C12-2,3,7,8-TCDF	71	74	79	78
13C12-1,2,3,7,8-PeCDF	80	78	66	61
13C12-2,3,4,7,8-PeCDF	79	76	65	58
13C12-1,2,3,4,7,8-HxCDF	89	92	86	105
13C12-1,2,3,6,7,8-HxCDF	85	87	79	101
13C12-2,3,4,6,7,8-HxCDF	86	86	82	100
13C12-1,2,3,7,8,9-HxCDF	87	90	81	96
13C12-1,2,3,4,6,7,8-HpCDF	81	88	82	88
13C12-1,2,3,4,7,8,9-HpCDF	76	81	75	76
Cleanup Standard				
37Cl4-2,3,7,8-TCDD (Cleanup)	65	72	67	57
Homologue Group Totals	**pg/g**			
Total-TCDD	<0.032			
Total-PeCDD	<0.069			
Total-HxCDD	<0.031			
Total-HpCDD	<0.042			
Total-TCDF	<0.036			
Total-PeCDF	<0.046			
Total-HxCDF	0.0679			
Total-HpCDF	0.104			
Toxic Equivalency - (NATO)				
Lower Bound PCDD/F TEQ (NATO)	0.00783			
Mid Point PCDD/F TEQ (NATO)	0.0668			
Upper Bound PCDD/F TEQ (NATO)	0.118			

REGION VIII
DATA VALIDATION REPORT
ORGANICS – DIOXINS/FURANS

TDD No.	Site Name		Operable Unit
1109-07	Smurfit Stone Mill		
RPM/OSC Name			
Robert Parker			
Contractor Laboratory	**Contract No.**	**SDG No.**	**Laboratory DPO/Region**
ALS Laboratory Group		WG1387470	

Review Assigned Date: February 9, 2012 Data Validator: Lisa Tyson
Review Completion Date: February 24, 2012 Report Reviewer: Bill Fear

Sample ID	Matrix	Analysis
SSSE08	Soil	Dioxins and Furans by Method 8290A
SSSE09		
SSSE10		
SSSO0514		
SSSO0612		
SSSO0902		
SSSO0916		
SSSO1002		
SSSO1102		
SSSO1110		
SSSO1202		
SSSO1306		
SSSO1402		
SSSO1702		
SSSO8902		
SSSO9902		

DATA QUALITY STATEMENT

( ) Data are ACCEPTABLE according to EPA Functional Guidelines with no qualifiers (flags) added by the reviewer.
( ) Data are UNACCEPTABLE according to EPA Functional Guidelines.
(X) Data are acceptable with QUALIFICATIONS noted in review.

PO Attention Required? Yes _____ No ___X__ If yes, list the items that require attention:

ORGANIC DATA VALIDATION REPORT

REVIEW NARRATIVE SUMMARY

This data package was reviewed according to the "National Functional Guidelines for Chlorinated Dibenzo-p-Dioxins (CDDs) and Chlorinated Dibenzofurans (CDFs) Data Review," September 2011, modified for the method used.

Raw data were reviewed for completeness and transcription accuracy onto the summary forms. Approximately 10-20% of the results reported in each of the samples, calibrations, and QC analyses were recalculated and verified. If problems were identified during the recalculation of results, a more thorough calculation check was performed.

Data package WG1387470 consisted of 16 soil samples for dioxin and furan analyses by Method 8290A.

The following tables list data qualifiers added to the data. (Please see Data Qualifier Definitions, attached to the end of this report.)

Sample Number	Compound	Qualifier	Reason For Qualification	Review Section
SSSO1002	12378-PeCDF Total-PeCDF	J	Low IS Recovery	6
SSSE08, SSSE09	123478-HxCDD	U	Blank contamination	7
SSSE08, SSSO0514	1234678-HpCDF			
SSSE09, SSSE10, SSSO1306, SSSO1702	1234789-HpCDF			
SSSE08, SSSE09, SSSE10	Total HxCDD			
SSSE10, SSSO0514	Total HpCDF			
SSSE08, SSSE09, SSSE10, SSSO1306	123789-HxCDD			
SSSE09, SSSE10, SSSO0902, SSSO1002, SSSO1102, SSSO1110, SSSO1306	234678-HxCDF			
SSSO0902, SSSO1702	123789-HxCDF			
SSSE08, SSSE10, SSSO0514, SSSO0902	OCDF			
All samples	All "R' flagged results	J	Compounds did not meet ion abundance ratios	9

Note: The laboratory's "R" flag (for ion abundance ratios) is different from the validation "R" flag used for rejected results.

1. DELIVERABLES

All deliverables were present.

ORGANICS: Yes X No____

Comments: None.

2. HOLDING TIMES AND PRESERVATION CRITERIA

All holding times and preservation criteria were met.

ORGANICS: Yes X No____

Comments: The soil samples were extracted within 30 days of sample collection and all extracts were analyzed within 45 days of sample extraction. The chain-of-custody records indicated that sample coolers were received within the recommended temperature range of 4 ± 2 °C, or slightly outside that range. Chain-of-custody, summary forms, and raw data were evaluated.

3. MASS RESOLUTION AND COLUMN PERFORMANCE RESULTS

The mass resolution and column performance check results were within the specified control limits. All appropriate results were included.

ORGANICS: Yes X No____

Comments: None.

4. INSTRUMENT CALIBRATIONS: INITIAL AND CONTINUING STANDARDS

Initial instrument calibrations were performed according to method requirements and met control limits.

ORGANICS: Yes X No____

Comments: Percent relative standard deviations (%RSDs) of the relative response factors (RRFs) were less than the method criteria of 20% for the unlabeled target compounds and less than 20% for the labeled internal standards. All ion abundance ratios were within method control limits for the initial calibration.

Continuing (routine) calibrations were performed according to method requirements and met control limits.

ORGANICS: Yes X No____

Comments: The continuing verification calibration standards were analyzed at the beginning and end of each 12-hour period. The percent differences (%Ds) were less than the method criteria of 20% for the unlabeled target compounds (25% if an ending standard) and 30% for the labeled internal standards (35% for an ending standard). All ion abundance ratios were within method control limits for the continuing calibrations.

5. MATRIX SPIKE/MATRIX SPIKE DUPLICATE/LABORATORY CONTROL SAMPLES

Matrix Spike/Matrix Spike Duplicate (MS/MSD) and laboratory control sample/laboratory control sample duplicate (LCS/LCSD) analyses were performed according to method requirements and results met recommended recovery and precision limits.

ORGANICS: Yes___ No X

Comments: MS/MSD analyses were performed on sample SSSO1402. The percent recoveries for 1,2,3,4,6,7,8-HpCDD (70%/73%), OCDD (26%/24%), and 2,3,7,8-TCDF (64%/73%) were below laboratory QC limits of 80-120%. According to the case narrative, the sample contained pieces of black malleable material that left a sooty residue on contact. PCDD/F targets are retained by carbon and it is possible that sample inhomogeneity with respect to the black material may be responsible for the recoveries not being met. No qualification is taken on organic data based solely on MS/MSD results.

A laboratory control sample (LCS) analysis was also performed. The percent recoveries were within laboratory QC limits. Summary forms and raw data were evaluated.

6. INTERNAL STANDARD AREA

Internal standard area analysis was performed according to method requirements and results met specified control limits.

ORGANICS: Yes___ No X

Comments: Internal standards and cleanup standards were included. Summary forms and raw data were evaluated.

The following table lists the samples with labeled standard percent recoveries (%Rs) outside control limits, which resulted in qualification, and the qualifiers added to the data:

Sample Number	Labeled Standard	%R	Control Limit	Compounds	Qualifiers
SSSO1002	13C12-12378-PeCDF	37%	40-130%	12378-PeCDF Total-PeCDF	J

7. LABORATORY BLANK ANALYSIS RESULTS

The laboratory blank analysis was performed according to method requirements and results met specified limits.

ORGANICS: Yes___ No_X_

Comments: Method blanks were extracted at the correct frequency. Summary forms and raw data were evaluated. The following table summarizes the blanks that resulted in qualification (sample results less than five times the blank value adjusted for sample amount).

Blank ID	Contaminant	Concentration Found in Blank (pg/g)	Associated Samples	Concentration Found in Sample (pg/g)	Qualifier/ Adjustment
MB	123478-HxCDD	0.0584	SSSE08 SSSE09	0.04 0.07	U
	1234678-HpCDF	0.0542	SSSE08 SSSO0514	0.08 0.83	
	1234789-HpCDF	0.0572	SSSE09 SSSE10 SSSO1306 SSSO1702	0.08 0.1 0.23 0.67	
	Total HxCDD	0.0584	SSSE08 SSSE09 SSSE10	0.38 0.29 0.14	
	Total HpCDF	0.111	SSSE10 SSSO0514	0.77 1.35	
	123789-HxCDD	<0.025	SSSE08 SSSE09 SSSE10 SSSO1306	0.11 0.09 0.14 0.12	
	234678-HxCDF	<0.056	SSSE09 SSSE10 SSSO0902 SSSO1002 SSSO1102 SSSO1110 SSSO1306	0.1 0.08 0.36 1.4 1.06 0.47 0.14	

Blank ID	Contaminant	Concentration Found in Blank (pg/g)	Associated Samples	Concentration Found in Sample (pg/g)	Qualifier/ Adjustment
MB	123789-HxCDF	<0.020	SSSO0902 SSSO1702	0.13 0.18	U
	OCDF	<0.21	SSSE08 SSSE10 SSSO0514 SSSO0902	0.47 1.6 1.6 0.99	

8. SAMPLE RESULTS

The sample results were reviewed and all compound identifications were acceptable and met method requirements.

ORGANICS: Yes____ No__X__

Comments: The samples were analyzed on a DB-5MS column. Detected results for 2,3,7,8-TCDF were not confirmed by analysis on a DB-225 column or equivalent column.

Various detected results were flagged "R" by the laboratory indicating that the ion abundance ratios for these compounds did not meet acceptance criteria, Therefore, these "R" flagged results in all samples were qualified as estimated "J". [Note: The laboratory's "R" flag (for ion abundance ratios) is different from the validation "R" flag used for rejected results.]

9. ADDITIONAL COMMENTS OR PROBLEMS NOT ADDRESSED ABOVE

All problems/resolutions were addressed in the above sections.

ORGANICS: Yes__X__ No____

Comments: None.

ORGANIC DATA QUALITY ASSURANCE REVIEW

Region VIII

DATA QUALIFIER DEFINITIONS

For the purpose of Data Validation, the following code letters and associated definitions are provided for use by the data validator to summarize the data quality.

GENERAL QUALIFIERS for use with both INORGANIC and ORGANIC DATA

R	-	Reported value is "rejected." Resampling or reanalysis may be necessary to verify the presence or absence of the compound.
J	-	The associated numerical value is an estimated quantity because the Quality Control criteria were not met.
U J	-	The reported quantitation limit is estimated because Quality Control criteria were not met. Element or compound was not detected.
N J	-	Estimated value of a tentatively identified compound. (Identified with a CAS number.) ORGANICS analysis only.
U	-	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

ALS Environmental

Sample Analysis summary Report

Sample Name	SSSE08	SSSE09	SSSE10	SSSO0514	SSSO0612	SSSO0902
ALS Sample ID	L1080162-20	L1080162-21	L1080162-22	L1081891-21	L1081891-22	L1081891-23
Sample Size	14.22	13.13	14.07	7.63	6.90	13.69
Sample size units	grams	grams	grams	grams	grams	grams
Percent Moisture	30.60%	34.50%	30.30%	62.30%	65.80%	32.60%
Sample Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sampling Date	25-Oct-11	25-Oct-11	25-Oct-11	27-Oct-11	27-Oct-11	27-Oct-11
Extraction Date	15-Nov-11	15-Nov-11	15-Nov-11	15-Nov-11	15-Nov-11	15-Nov-11
Target Analytes	**pg/g**	**pg/g**	**pg/g**	**pg/g**	**pg/g**	**pg/g**
2,3,7,8-TCDD	<0.035	<0.056	<0.057	0.823	1.47	<0.062
1,2,3,7,8-PeCDD	<0.057	<0.082	<0.087	<0.38	<0.74	0.280
1,2,3,4,7,8-HxCDD	<0.046	<0.078	<0.063	<0.62	<0.90	<0.16
1,2,3,6,7,8-HxCDD	<0.044	0.193	<0.090	8.89	6.50	0.756
1,2,3,7,8,9-HxCDD	<0.11	0.0972	0.147	4.39	3.14	0.458
1,2,3,4,6,7,8-HpCDD	1.44	3.80	2.20	24.6	31.0	9.61
OCDD	9.24	28.8	15.0	124	170	62.6
2,3,7,8-TCDF	<0.048	<0.097	<0.055	6.23	11.8	0.992
1,2,3,7,8-PeCDF	<0.038	0.0728	<0.063	0.610	1.72	<0.29
2,3,4,7,8-PeCDF	<0.035	0.0882	0.127	<0.57	2.34	0.541
1,2,3,4,7,8-HxCDF	<0.029	<0.14	0.0779	<0.35	2.51	<0.37
1,2,3,6,7,8-HxCDF	<0.032	<0.071	<0.080	<0.35	2.15	<0.28
2,3,4,6,7,8-HxCDF	0.0319	0.103	0.0879	<0.35	<0.94	<0.36
1,2,3,7,8,9-HxCDF	<0.037	<0.031	<0.052	<0.44	<1.1	0.126
1,2,3,4,6,7,8-HpCDF	<0.082	0.898	0.615	<0.83	6.61	<0.70
1,2,3,4,7,8,9-HpCDF	<0.040	<0.089	0.101	<0.76	<2.0	<0.27
OCDF	0.474	<3.3	1.60	<1.6	13.3	<0.99
Extraction Standards	**% Rec**	**% Rec**	**% Rec**	**% Rec**	**% Rec**	**% Rec**
13C12-2,3,7,8-TCDD	80	77	80	78	83	73
13C12-1,2,3,7,8-PeCDD	82	80	92	60	60	59
13C12-1,2,3,4,7,8-HxCDD	98	94	94	89	100	87
13C12-1,2,3,6,7,8-HxCDD	92	87	96	90	90	84
13C12-1,2,3,4,6,7,8-HpCDD	93	86	91	75	86	67
13C12-OCDD	95	84	91	69	84	53
13C12-2,3,7,8-TCDF	77	76	76	77	79	72
13C12-1,2,3,7,8-PeCDF	85	83	91	65	64	65
13C12-2,3,4,7,8-PeCDF	84	81	94	63	62	62
13C12-1,2,3,4,7,8-HxCDF	96	92	92	91	98	90
13C12-1,2,3,6,7,8-HxCDF	90	89	88	86	84	86
13C12-2,3,4,6,7,8-HxCDF	89	85	89	88	88	83
13C12-1,2,3,7,8,9-HxCDF	92	86	90	86	89	79
13C12-1,2,3,4,6,7,8-HpCDF	97	92	93	82	87	77
13C12-1,2,3,4,7,8,9-HpCDF	94	86	91	77	83	65
Cleanup Standard						
37Cl4-2,3,7,8-TCDD (Cleanup)	69	68	73	69	79	67
Homologue Group Totals	**pg/g**	**pg/g**	**pg/g**	**pg/g**	**pg/g**	**pg/g**
Total-TCDD	<0.035	<0.056	<0.057	1.93	2.28	2.17
Total-PeCDD	0.0684	<0.082	<0.087	<0.38	1.23	1.88
Total-HxCDD	0.389	0.290	0.147	52.9	41.3	5.67
Total-HpCDD	3.08	7.50	4.40	46.0	57.0	18.0
Total-TCDF	<0.048	<0.097	0.429	26.4	64.6	7.87
Total-PeCDF	<0.038	0.672	0.210	4.13	23.9	4.13
Total-HxCDF	0.0471	0.626	0.477	1.44	13.8	0.669
Total-HpCDF	<0.040	2.38	0.770	1.35	6.61	<0.27
Toxic Equivalency - (NATO)						
Lower Bound PCDD/F TEQ (NATO)	0.0273	0.163	0.141	3.17	5.90	0.802
Mid Point PCDD/F TEQ (NATO)	0.134	0.306	0.275	3.82	6.52	0.997
Upper Bound PCDD/F TEQ (NATO)	0.146	0.306	0.278	3.88	6.58	1.01

ALS Environmental

Sample Analysis summary Report

Sample Name	SSSO0916	SSSO1002	SSSO1102	SSSO1110	SSSO1306	SSSO1402
ALS Sample ID	L1081891-24	L1081891-25	L1081891-26	L1081891-27	L1081891-31	L1081891-32
Sample Size	7.65	4.60	7.07	9.78	14.30	5.86
Sample size units	grams	grams	grams	grams	grams	grams
Percent Moisture	62.60%	77.10%	65.10%	51.70%	29.50%	71.30%
Sample Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sampling Date	27-Oct-11	27-Oct-11	27-Oct-11	27-Oct-11	28-Oct-11	28-Oct-11
Extraction Date	15-Nov-11	15-Nov-11	15-Nov-11	15-Nov-11	15-Nov-11	15-Nov-11
Target Analytes	**pg/g**	**pg/g**	**pg/g**	**pg/g**	**pg/g**	**pg/g**
2,3,7,8-TCDD	<3.6	<0.46	1.50	13.6	<0.053	15.6
1,2,3,7,8-PeCDD	<1.0	<1.9	1.18	<0.85	<0.12	5.72
1,2,3,4,7,8-HxCDD	<1.5	<1.1	<1.2	<0.73	<0.11	<3.9
1,2,3,6,7,8-HxCDD	7.03	<1.5	5.58	15.8	0.212	32.1
1,2,3,7,8,9-HxCDD	3.31	<1.3	2.86	8.01	0.122	19.0
1,2,3,4,6,7,8-HpCDD	46.7	31.4	58.0	115	8.46	157
OCDD	432	321	416	839	77.8	1190
2,3,7,8-TCDF	18.7	3.25	9.51	41.3	0.136	46.5
1,2,3,7,8-PeCDF	7.95	<1.1	<0.97	<1.3	<0.49	6.02
2,3,4,7,8-PeCDF	79.2	2.05	1.69	1.90	<0.44	8.68
1,2,3,4,7,8-HxCDF	249	1.50	<1.1	<1.0	<0.58	3.98
1,2,3,6,7,8-HxCDF	139	<0.82	<1.1	0.586	0.376	<2.8
2,3,4,6,7,8-HxCDF	43.2	<1.4	1.06	<0.47	<0.14	2.88
1,2,3,7,8,9-HxCDF	24.5	<0.90	<0.97	<0.45	<0.12	<3.4
1,2,3,4,6,7,8-HpCDF	73.0	8.38	5.62	<4.2	<0.58	15.6
1,2,3,4,7,8,9-HpCDF	7.27	<1.3	<1.6	<0.88	0.225	<4.9
OCDF	18.1	24.7	13.0	20.1	1.80	<44
Extraction Standards	**% Rec**	**% Rec**	**% Rec**	**% Rec**	**% Rec**	**% Rec**
13C12-2,3,7,8-TCDD	78	81	79	80	76	81
13C12-1,2,3,7,8-PeCDD	59	63	52	61	73	62
13C12-1,2,3,4,7,8-HxCDD	99	108	97	95	85	99
13C12-1,2,3,6,7,8-HxCDD	83	88	93	85	89	85
13C12-1,2,3,4,6,7,8-HpCDD	80	88	66	79	74	92
13C12-OCDD	83	88	52	80	70	95
13C12-2,3,7,8-TCDF	76	79	79	79	75	76
13C12-1,2,3,7,8-PeCDF	63	37	55	68	77	66
13C12-2,3,4,7,8-PeCDF	59	63	55	67	75	65
13C12-1,2,3,4,7,8-HxCDF	92	79	100	92	89	94
13C12-1,2,3,6,7,8-HxCDF	81	88	95	83	84	92
13C12-2,3,4,6,7,8-HxCDF	84	90	94	87	84	92
13C12-1,2,3,7,8,9-HxCDF	84	90	87	89	84	90
13C12-1,2,3,4,6,7,8-HpCDF	85	91	77	85	82	94
13C12-1,2,3,4,7,8,9-HpCDF	80	87	65	81	73	93
Cleanup Standard						
37Cl4-2,3,7,8-TCDD (Cleanup)	47	65	71	73	69	70
Homologue Group Totals	**pg/g**	**pg/g**	**pg/g**	**pg/g**	**pg/g**	**pg/g**
Total-TCDD	1.06	0.537	3.87	15.7	0.405	28.8
Total-PeCDD	<0.91	<1.9	3.61	4.59	<0.12	12.6
Total-HxCDD	10.3	5.32	29.5	88.6	1.37	189
Total-HpCDD	86.0	59.3	104	208	18.1	308
Total-TCDF	148	43.5	46.9	101	1.60	284
Total-PeCDF	430	20.7	16.2	7.16	<0.49	77.3
Total-HxCDF	772	5.15	6.75	7.57	1.09	9.30
Total-HpCDF	97.5	16.5	5.62	13.5	1.09	39.3
Toxic Equivalency - (NATO)						
Lower Bound PCDD/F TEQ (NATO)	90.2	2.24	5.90	23.1	0.251	36.5
Mid Point PCDD/F TEQ (NATO)	94.4	3.78	6.29	23.9	0.671	37.4
Upper Bound PCDD/F TEQ (NATO)	94.4	4.42	6.40	23.9	0.709	37.6

ALS Environmental

Sample Analysis summary Report

Sample Name	SSSO1702	SSSO8902	SSSO9902	SSSO1202
ALS Sample ID	L1081891-35	L1081891-36	L1081891-37	L1081891-38
Sample Size	11.44	5.33	11.67	7.49
Sample size units	grams	grams	grams	grams
Percent Moisture	44.00%	74.00%	42.70%	63.40%
Sample Matrix	SOIL	SOIL	SOIL	SOIL
Sampling Date	28-Oct-11	28-Oct-11	28-Oct-11	27-Oct-11
Extraction Date	15-Nov-11	15-Nov-11	15-Nov-11	15-Nov-11
Target Analytes	**pg/g**	**pg/g**	**pg/g**	**pg/g**
2,3,7,8-TCDD	<0.15	15.0	<1.4	1.21
1,2,3,7,8-PeCDD	<0.39	<4.9	1.12	<0.94
1,2,3,4,7,8-HxCDD	<0.36	<5.2	<0.71	<1.1
1,2,3,6,7,8-HxCDD	3.03	24.4	6.05	3.19
1,2,3,7,8,9-HxCDD	<0.96	12.8	2.98	<1.6
1,2,3,4,6,7,8-HpCDD	81.8	128	92.8	52.9
OCDD	788	918	810	555
2,3,7,8-TCDF	<1.2	11.7	5.67	3.91
1,2,3,7,8-PeCDF	<0.38	6.28	1.43	0.841
2,3,4,7,8-PeCDF	<0.77	9.93	0.938	1.33
1,2,3,4,7,8-HxCDF	1.12	<3.3	1.52	<0.78
1,2,3,6,7,8-HxCDF	0.617	3.33	1.07	<0.75
2,3,4,6,7,8-HxCDF	<0.90	3.93	<1.1	<0.76
1,2,3,7,8,9-HxCDF	<0.18	<3.8	<0.54	<0.92
1,2,3,4,6,7,8-HpCDF	7.35	<13	6.83	5.23
1,2,3,4,7,8,9-HpCDF	<0.67	<5.1	<0.71	<1.4
OCDF	16.4	52.5	17.8	18.5
Extraction Standards	**% Rec**	**% Rec**	**% Rec**	**% Rec**
13C12-2,3,7,8-TCDD	79	82	83	77
13C12-1,2,3,7,8-PeCDD	61	62	49	45
13C12-1,2,3,4,7,8-HxCDD	91	94	107	82
13C12-1,2,3,6,7,8-HxCDD	94	86	85	87
13C12-1,2,3,4,6,7,8-HpCDD	70	91	100	71
13C12-OCDD	56	98	123	64
13C12-2,3,7,8-TCDF	80	78	79	77
13C12-1,2,3,7,8-PeCDF	72	66	53	50
13C12-2,3,4,7,8-PeCDF	71	65	51	49
13C12-1,2,3,4,7,8-HxCDF	97	92	95	85
13C12-1,2,3,6,7,8-HxCDF	95	86	84	85
13C12-2,3,4,6,7,8-HxCDF	95	90	89	85
13C12-1,2,3,7,8,9-HxCDF	89	88	92	82
13C12-1,2,3,4,6,7,8-HpCDF	80	95	96	78
13C12-1,2,3,4,7,8,9-HpCDF	68	95	102	69
Cleanup Standard				
37Cl4-2,3,7,8-TCDD (Cleanup)	81	54	68	74
Homologue Group Totals	**pg/g**	**pg/g**	**pg/g**	**pg/g**
Total-TCDD	0.840	26.7	8.12	4.59
Total-PeCDD	1.21	29.0	9.57	2.70
Total-HxCDD	12.1	149	32.8	3.19
Total-HpCDD	147	243	171	102
Total-TCDF	7.04	270	65.0	21.6
Total-PeCDF	3.20	76.0	23.3	11.2
Total-HxCDF	10.9	25.2	13.0	2.37
Total-HpCDF	20.8	22.8	18.0	14.4
Toxic Equivalency - (NATO)				
Lower Bound PCDD/F TEQ (NATO)	2.17	28.1	4.65	3.78
Mid Point PCDD/F TEQ (NATO)	3.29	32.0	6.30	4.76
Upper Bound PCDD/F TEQ (NATO)	3.29	32.0	6.30	4.86

ALS Environmental

Quality Control Summary Report

Sample Name	Method Blank	LCS	Matrix Spike	Matrix Spike Duplicate
ALS Sample ID	WG1387470-1	WG1387470-2	WG1387470-4	WG1387470-5
Sample Size	15.00	1	5.49	5.40
Sample size units	grams	n/a	n/a	n/a
Percent Moisture	n/a	n/a	72.90%	73.10%
Sample Matrix	QC	QC	QC	QC
Sampling Date	n/a	n/a	n/a	n/a
Extraction Date	15-Nov-11	15-Nov-11	15-Nov-11	15-Nov-11
Target Analytes	**pg/g**	**% Rec**	**% Rec**	**% Rec**
2,3,7,8-TCDD	<0.044	87	80	80
1,2,3,7,8-PeCDD	<0.051	96	97	97
1,2,3,4,7,8-HxCDD	0.0584	91	94	95
1,2,3,6,7,8-HxCDD	<0.022	93	95	86
1,2,3,7,8,9-HxCDD	<0.025	91	93	91
1,2,3,4,6,7,8-HpCDD	<0.11	98	70	73
OCDD	<0.42	91	26	24
2,3,7,8-TCDF	<0.032	91	64	73
1,2,3,7,8-PeCDF	<0.037	87	92	93
2,3,4,7,8-PeCDF	<0.034	90	97	95
1,2,3,4,7,8-HxCDF	<0.014	90	95	91
1,2,3,6,7,8-HxCDF	<0.014	94	96	101
2,3,4,6,7,8-HxCDF	<0.056	91	91	95
1,2,3,7,8,9-HxCDF	<0.020	93	97	94
1,2,3,4,6,7,8-HpCDF	0.0542	91	94	95
1,2,3,4,7,8,9-HpCDF	0.0572	91	98	93
OCDF	<0.21	84	92	93
Extraction Standards	**% Rec**	**% Rec**	**% Rec**	**% Rec**
13C12-2,3,7,8-TCDD	79	76	81	80
13C12-1,2,3,7,8-PeCDD	75	76	63	62
13C12-1,2,3,4,7,8-HxCDD	92	93	102	93
13C12-1,2,3,6,7,8-HxCDD	90	92	89	88
13C12-1,2,3,4,6,7,8-HpCDD	92	92	93	93
13C12-OCDD	87	94	93	96
13C12-2,3,7,8-TCDF	75	73	77	76
13C12-1,2,3,7,8-PeCDF	77	79	68	69
13C12-2,3,4,7,8-PeCDF	79	78	67	68
13C12-1,2,3,4,7,8-HxCDF	90	89	97	95
13C12-1,2,3,6,7,8-HxCDF	85	84	97	89
13C12-2,3,4,6,7,8-HxCDF	85	86	99	90
13C12-1,2,3,7,8,9-HxCDF	88	87	93	90
13C12-1,2,3,4,6,7,8-HpCDF	93	92	95	95
13C12-1,2,3,4,7,8,9-HpCDF	90	92	91	96
Cleanup Standard				
37Cl4-2,3,7,8-TCDD (Cleanup)	79	76	57	75
Homologue Group Totals	**pg/g**			
Total-TCDD	<0.044			
Total-PeCDD	<0.051			
Total-HxCDD	0.0584			
Total-HpCDD	<0.045			
Total-TCDF	<0.032			
Total-PeCDF	<0.037			
Total-HxCDF	<0.016			
Total-HpCDF	0.111			
Toxic Equivalency - (NATO)				
Lower Bound PCDD/F TEQ (NATO)	0.00695			
Mid Point PCDD/F TEQ (NATO)	0.0671			
Upper Bound PCDD/F TEQ (NATO)	0.115			

REGION VIII
DATA VALIDATION REPORT
ORGANICS

Case/TDD No.	Site Name		Operable Unit
41926 / 1109-07	Smurfit Stone Mill		
RPM/OSC Name			
Robert Parker			
Contractor Laboratory	**Contract No.**	**SDG No.**	**Laboratory DPO/Region**
Spectrum Analytical, Inc.	EP-W-11-033	H30S7	

Review Assigned Date: February 9, 2012 Data Validator: Amy Ballow
Review Completion Date: February 22, 2012 Report Reviewer: Bill Fear

Sample ID	Matrix	Analysis
H30S7	Water	CLP – Trace Volatile Analyses by SOM01.2
H30T9		CLP - Trace Volatile, Semivolatile, and Aroclor Analyses by SOM01.2
H30W0		
H30W1		
H30W2		
H30W3		
H30W4		
H30W5		
H30W6		
H30W7		
H30W8		
H30X0		
H30X1		
H30Y2		

Sample ID	Matrix	Analysis
H30Y3	Water	CLP - Trace Volatile, Semivolatile, and Aroclor Analyses by SOM01.2
H30Y4		
H30Y5		
H30Y6		
H30Z6		
H30X3		CLP – Semivolatile and Aroclor Analyses by SOM01.2

DATA QUALITY STATEMENT

( ) Data are ACCEPTABLE according to EPA Functional Guidelines with no qualifiers (flags) added by the reviewer.
( ) Data are UNACCEPTABLE according to EPA Functional Guidelines.
(X) Data are acceptable with QUALIFICATIONS noted in review.

PO Attention Required? Yes _____ No ___X__ If yes, list the items that require attention:

ORGANIC DATA VALIDATION REPORT

REVIEW NARRATIVE SUMMARY

This data package was reviewed according to the EPA document "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," June 2008.

Raw data were reviewed for completeness and transcription accuracy onto the summary forms. Approximately 10-20% of the results reported in each of the samples, calibrations, and QC analyses were recalculated and verified. If problems were identified during the recalculation of results, a more thorough calculation check was performed.

The data package, SDG No. H30S7, consisted of 19 water samples for CLP trace volatile organic analyses and 19 water samples for CLP semivolatile organic and Aroclor organic analyses by SOM01.2.

The following tables list data qualifiers added to the data. (Please see Data Qualifier Definitions, attached to the end of this report.)

Sample Number	Volatile Compound	Qualifier	Reason For Qualification	Review Section
None	None	None	None	None

Sample Number	Semivolatile Compound	Qualifier	Reason For Qualification	Review Section
H30T9, H30W0, H30W1, H30W2, H30W3, H30W4, H30W5, H30W6, H30W7, H30W8, H30Z6	All semivolatile compounds	UJ	Extraction holding time exceeded	2
All semivolatiles samples	Pentachlorophenol		Initial calibration %RSD > 20%	4
	Dibenzo(a,h)anthracene Benzo(g,h,i)perylene		Continuing calibration %Ds > 25%	
H30W1	Acenaphthylene Acenaphthene 2-Methylnaphthalene Naphthalene		DMC percent recoveries below criteria, but above 10%	5
H30Y6, H30W1	Hexachlorobenzene Atrazine Phenanthrene Anthracene			

Sample Number	Semivolatile Compound	Qualifier	Reason For Qualification	Review Section
H30Y3, H30Y4, H30Y5, H30Y6, H30W1	Fluoranthene Pyrene Benzo(a)anthracene Chrysene	UJ	DMC percent recoveries below criteria, but above 10%	5
H30Y2, H30Y3, H30Y4, H30Y5, H30Y6, H30X3, H30W1	Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene Indeno(1,2,3-cd)pyrene Dibenzo(a,h)anthracene Benzo(g,h,i)perylene			

Sample Number	Aroclor Compound	Qualifier	Reason For Qualification	Review Section
H30T9, H30W0, H30W1, H30W2, H30W3, H30W4, H30W5, H30W6, H30W7, H30W8, H30Z6	All target Aroclors	UJ	Extraction holding time exceeded	2
H30Y2, H30Y3, H30Y4, H30Y5, H30Y6, H30X3			Surrogate percent recoveries below QC limits	4

1. DELIVERABLES

All deliverables were present as specified in the subcontract.

VOA: Yes X No____

Comments: None.

2. HOLDING TIMES AND PRESERVATION CRITERIA

All holding times and preservation criteria were met.

VOA: Yes X No____

Comments: The preserved water samples were analyzed within 14 days from sample collection.

According to the case narrative and chain-of-custody records (COCs), the sample coolers were received at the laboratory between 6.5 °C and 10 °C, which is above the temperature criteria of 4 ± 2 °C. As per the Region instructions, if the samples were received below 10 °C, the laboratory noted the issue and proceeded with the analyses. Therefore, no action was taken.

According to the case narrative, the COC lists the analysis as VOA (volatiles) for this analysis; however, per scheduling this case required TVOA (trace volatiles). In accordance with previous direction from Region 8, the laboratory noted this issue and performed the TVOA analyses as indicated on the Scheduling Notification form.

Additionally, the case narrative indicated that the laboratory only received three VOA vial for the TVOA analysis and four amber bottles for the semivolatile/Aroclor (SVOA/ARO) analyses. This is insufficient sample volume for the laboratory QC for all fractions. Per Region 8, the TVOA laboratory QC was canceled.

Sample tags were not received with the samples. In accordance with previous direction from Region 8, the laboratory noted this issue and proceeded with the analyses.

No other shipping or receiving problems were noted. Chain-of-custody, summary forms, and raw data were evaluated.

3. BFB PERFORMANCE RESULTS

The bromofluorobenzene (BFB) performance results were within the specified control limits. All appropriate BFB results were included.

VOA: Yes X No____
Comments: BFB instrument performance checks were run for each 12 hours of analysis. Ion

abundance criteria were met and were verified from raw data.

4. INSTRUMENT CALIBRATIONS: INITIAL AND CONTINUING STANDARDS

Initial instrument calibrations were performed according to method requirements and met the project specified control limits.

VOA: Yes X No____

Comments: Initial calibration standards containing both target compounds and the deuterated monitoring compounds (DMCs) were analyzed at the correct frequency. The average relative response factors (RRFs) for the compounds identified by the Functional Guidelines as poor responders were greater than or equal to 0.01. The RRFs for all other target compounds were greater than or equal to 0.05. The percent relative standard deviations (%RSDs) of the RRFs were less than or equal to 40% for the poor responders and less than or equal to 30% for all other analytes. Summary forms and raw data were evaluated.

Continuing instrument calibrations were performed according to method requirements and met project specified control limits.

VOA: Yes X No____

Comments: Continuing calibration standards containing both target compounds and the DMCs were analyzed at the beginning and end of each 12-hour analysis period. The RRFs for the compounds identified by the Functional Guidelines as poor responders were greater than or equal to 0.01. The RRFs for all other target compounds were greater than or equal to 0.05. The opening standard percent differences (%Ds) of the RRFs were less than or equal to 40% for the poor responders and less than or equal to 30% for all other trace analytes. All %Ds for the closing standards were less than 50% and all RRFs were greater than 0.01. Summary forms and raw data were evaluated.

5. DEUTERATED MONITORING COMPOUNDS

Deuterated monitoring compound (DMC) recovery analysis was performed according to method requirements and results met specified control limits.

VOA: Yes X No____

Comments: DMCs were added to all samples and blanks. The DMC percent recoveries (%Rs) were all within the QC limits. Summary forms and raw data were evaluated.

6. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Matrix Spike/Matrix Spike Duplicate (MS/MSD) analyses were performed according to method requirements and results met recommended recovery and precision limits.

VOA: Yes___ No_X_

Comments: MS/MSD analyses were not performed for the volatile analyses due to insufficient sample volume.

7. INTERNAL STANDARD AREA

Internal standard area analysis was performed according to method requirements and results met specified control limits.

VOA: Yes_X_ No____

Comments: Internal standard area counts did not vary by more than a factor of two from the associated 12-hour calibration standard. The internal standard retention times did not vary more than ± 30 seconds from the retention time of the associated 12-hour calibration standards. Summary forms and raw data were evaluated.

8. LABORATORY BLANK ANALYSIS RESULTS

The laboratory blank analysis was performed according to method requirements and results met specified limits.

VOA: Yes_X_ No____

Comments: Method blank analyses were performed after the calibration standards and once for every 12-hour time period. A storage blank (VHBLK5W) was also analyzed. No target compounds were detected in method blanks VBLK5T and VBLK5W; or in the storage blank VHBLK5W. Summary forms and raw data were evaluated.

9. SAMPLE RESULTS

The sample results were reviewed and all compound identifications were acceptable and met contract requirements.

VOA: Yes_X_ No____

Comments: Sample relative retention times (RRTs) were within ± 0.06 RRT units of the standard RRT. Ions present in the standard mass spectrum at a relative intensity greater than 10% were present in the sample spectrum. Relative intensities of ions agreed within ±20% between standard and sample spectra. All samples results and CRQL were correctly calculated.
Tentatively identified compounds (TICs) were qualitatively assessed by a mass

spectral library search.

10. Additional Comments or Problems/Resolutions Not Addressed Above

VOA: Yes___ No_X_

Comments: None.

1. DELIVERABLES

All deliverables were present as specified in the subcontract.

BNA: Yes X No____

Comments: None.

2. HOLDING TIMES AND PRESERVATION CRITERIA

All holding times and preservation criteria were met.

BNA: Yes___ No X

Comments: All sample extracts were analyzed within 40 days from sample extraction. However, the majority of the samples were not extracted within seven days of sample collection.

The following table lists the samples extracted beyond the seven day extraction holding time, the days outside the holding time, compounds affected, and the qualifiers added to the data:

Sample	Days outside the extraction holding times	Compounds	Qualifiers
H30T9, H30W0, H30W1, H30W2, H30W3, H30W4, H30W5, H30W6, H30W7, H30W8, H30Z6	1 to 2 days	All semivolatile compounds	J/UJ

The case narrative did not address the samples that exceeded holding times.

According to the case narrative and chain-of-custody records (COCs), the sample coolers were received at the laboratory between 6.5 °C and 10 °C, which is above the temperature criteria of 4 ± 2 °C. As per the Region instructions, if the samples were received below 10 °C, the laboratory noted the issue and proceeded with the analyses. Therefore, no action was taken.

According to the case narrative, the laboratory only received four amber bottles for the semivolatile/Aroclor (SVOA/ARO) analyses. This is insufficient sample volume for the laboratory QC for all fractions. The laboratory performed the laboratory QC analyses at reduced volumes for SVOA/ARO fractions leaving no volume for the re-extractions if necessary.

Additionally, the case narrative indicated two of four amber bottles for sample H30W2; and one of four amber bottles for samples H30T9 and H30Y6 were received broken at the laboratory. The laboratory had sufficient sample volume remaining for the SVOA/ARO analyses.

Sample tags were not received with the samples. In accordance with previous direction from Region 8, the laboratory noted this issue and proceeded with the analyses.

No other shipping or receiving problems were noted. Chain-of-custody, summary forms, and raw data were evaluated.

3. DFTPP PERFORMANCE RESULTS

The decafluorotriphenylphosphine (DFTPP) performance results were within the specified control limits. All appropriate DFTPP results were included.

BNA: Yes X No____

Comments: Instrument performance check solutions were analyzed at the beginning of each 12-hour period of sample analysis. Ion abundance criteria were met and were verified from raw data.

4. INSTRUMENT CALIBRATIONS: INITIAL AND CONTINUING STANDARDS

Initial instrument calibrations were performed according to method requirements and met the specified control limits listed in the Functional Guidelines.

BNA: Yes____ No X

Comments: Initial calibration standards containing both target compounds and the deuterated monitoring compounds (DMCs) were analyzed at the correct frequency. The average relative response factors (RRFs) for the compounds identified by the Functional Guidelines as poor responders were greater than or equal to 0.01 and the RRFs for all other target compounds were greater than or equal to 0.05. The percent relative standard deviations (%RSDs) of the RRFs were less than or equal to 40% for the poor responders and less than or equal to 20% for all other analytes with the exception below. Summary forms and raw data were evaluated.

The following table lists the %RSD that was greater than 20% and qualifiers added to the data:

Compound	RRFs	%RSD	Associated Samples	Qualifiers
Pentachlorophenol	--	20.8%	All samples	UJ

Continuing instrument calibrations were performed according to method requirements and met specified control limits listed in the Functional Guidelines.

BNA: Yes___ No_X_

Comments: Continuing calibration standards containing both target compounds and the DMCs were analyzed at the beginning and end of each 12-hour analysis period. The RRFs for the compounds identified by the Functional Guidelines as poor responders were greater than or equal to 0.01 and the RRFs for all other target compounds were greater than or equal to 0.05. The opening standard percent differences (%Ds) of the RRFs were less than or equal to 40% for the poor responders and less than or equal to 25% for all other analytes with the exceptions below. All %Ds for the closing standards were less than 50%. Summary forms and raw data were evaluated.

The following table lists %Ds in the opening standards that exceeded 25% and the qualifiers added to the data:

Compound	%D	Associated Samples	Qualifiers
Dibenzo(a,h)anthracene Benzo(g,h,i)perylene	25.9% 27.0%	All semivolatile samples	UJ

5. DEUTERATED MONITORING COMPOUNDS

Deuterated monitoring compound (DMC) recovery analysis was performed according to method requirements and results met specified control limits.

BNA: Yes___ No_X_

Comments: DMCs were added to all samples and blanks. Summary forms and raw data were evaluated.

The following table lists the samples with DMC percent recoveries (%Rs) outside control limits and the qualifiers added to the data.

Sample Number	DMC	%R	QC Limits	Compounds	Qualifiers
H30W1	Acenaphththylene-d8	33%	41-107%	Acenaphthylene Acenaphthene 2-Methylnaphthalene Naphthalene	J/UJ
H30Y6 H30W1	Anthracence-d10	44% 34%	44-110%	Hexachlorobenzene Atrazine Phenanthrene Anthracene	

Sample Number	DMC	%R	QC Limits	Compounds	Qualifiers
H30Y3 H30Y4 H30Y5 H30Y6 H30W1	Pyrene-d10	48% 41% 34% 30% 47%	52-119%	Fluoranthene Pyrene Benzo(a)anthracene Chrysene	J/UJ
H30Y2 H30Y3 H30Y4 H30Y5 H30Y6 H30X3 H30W1	Benzo(a)pyrene-d12	23% 20% 17% 15% 16% 22% 30%	32-121%	Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene Indeno(1,2,3-cd)pyrene Dibenzo(a,h)anthracene Benzo(g,h,i)perylene	

The samples listed above were not re-extracted due to insufficient sample volume.

The DMC percent recoveries for pyrene-d10 (42%) and for benzo(a)pyrene-d12 (26%) were below criteria in the MSD analysis of sample H30X3. No qualification is taken on QC samples (i.e., blanks and MS/MSD).

6. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Matrix Spike/Matrix Spike Duplicate (MS/MSD) analyses were performed according to method requirements and results met recommended recovery and precision limits.

BNA: Yes___ No_X_

Comments: MS/MSD analyses were performed on sample H30X3. Summary forms and raw data were evaluated. The following table lists the results for the MS/MSD analyses that were outside criteria; however, no action is taken based solely on MS/MSD results:

Sample	Compound	Percent Recovery		RPD	Control Limits		Qualifiers
		MS	MSD		% R	RPD	
H30X3	4-Nitrophenol	101	110	--	10-80	--	None
	Pentachlorophenol	129	121	--	9-103		
	Pyrene	--	--	61	--	31	

7. INTERNAL STANDARD AREA

Internal standard area analysis was performed according to method requirements and results met specified control limits.

BNA: Yes X No____

Comments: Internal standard area counts did not vary by more than a factor of two from the associated 12-hour calibration standard. The internal standard retention times did not vary more than ± 30 seconds from the retention time of the associated 12-hour calibration standards. Summary forms and raw data were evaluated.

8. LABORATORY BLANK ANALYSIS RESULTS

The laboratory blank analysis was performed according to method requirements and results met specified control limits.

BNA: Yes X No ____

Comments: Method blanks were reported per matrix, per concentration level, and for each extraction batch. No target compound contamination was detected in the blank analyses. Summary forms and raw data were evaluated.

9. SAMPLE RESULTS

The sample results were reviewed and all compound identifications were acceptable and met contract requirements.

BNA: Yes X No____

Comments: Sample relative retention times (RRTs) were within ± 0.06 RRT units of the standard RRT. Ions present in the standard mass spectrum at a relative intensity greater than 10% were present in the sample spectrum. Relative intensities of ions agreed within ± 20% between standard and sample spectra. All samples results and CRQL were correctly calculated.

Tentatively identified compounds (TICs) were qualitatively assessed by a mass spectral library search.

10. Additional Comments or Problems/Resolutions Not Addressed Above

BNA: Yes___ No X

Comments: None.

1. DELIVERABLES

All deliverables were present as specified in the subcontract.

AROCLOR: Yes X No____

Comments: None.

2. HOLDING TIMES AND PRESERVATION CRITERIA

All holding times and preservation criteria were met.

AROCLOR: Yes____ No X

Comments: All sample extracts were analyzed within 40 days from sample extraction. However, the majority of the samples were not extracted within seven days of sample collection.

The following table lists the samples extracted beyond the seven day extraction holding time, the days outside the holding time, compounds affected, and the qualifiers added to the data:

Sample	Days outside the extraction holding times	Compounds	Qualifiers
H30T9, H30W0, H30W1, H30W2, H30W3, H30W4, H30W5, H30W6, H30W7, H30W8, H30Z6	1 to 2 days	Aroclors	J/UJ

The case narrative did not address the samples that exceeded holding times.

According to the case narrative and chain-of-custody records (COCs), the sample coolers were received at the laboratory between 6.5 °C and 10 °C, which is above the temperature criteria of 4 ± 2 °C. As per the Region instructions, if the samples were received below 10 °C, the laboratory noted the issue and proceeded with the analyses. Therefore, no action was taken.

According to the case narrative, the laboratory only received four amber bottles for the semivolatile/Aroclor (SVOA/ARO) analyses. This is insufficient sample volume for the laboratory QC for all fractions. The laboratory performed the laboratory QC analyses at reduced volumes for SVOA/ARO fractions leaving no volume for the re-extractions if necessary.

Additionally, the case narrative indicated two of four amber bottles for sample H30W2; and one of four amber bottles for samples H30T9 and H30Y6 were received broken at the laboratory. The laboratory had sufficient sample volume remaining for the SVOA/ARO analyses.

Sample tags were not received with the samples. In accordance with previous direction from Region 8, the laboratory noted this issue and proceeded with the analyses.

No other shipping or receiving problems were noted. Chain-of-custody, summary forms, and raw data were evaluated.

3. INSTRUMENT CALIBRATIONS: INITIAL AND CONTINUING STANDARDS

The multi-component target compound analyses were performed according to method requirements:

AROCLOR: Yes__X__ No____

Comments: None.

Initial instrument calibrations were performed according to requirements and met the specified control limits listed in the functional guidelines.

AROCLOR: Yes__X__ No____

Comments: Percent relative standard deviations (%RSDs) for the calibration peaks used to quantitate the Aroclors were less than or equal to 20%.

Continuing instrument calibrations were performed according to requirements and met specified control limits listed in the functional guidelines.

AROCLOR: Yes__X__ No____

Comments: Continuing calibration standards were analyzed at the required frequency. The percent differences (%Ds) were less than or equal to 15% for the opening Aroclor standards and less than or equal to 50% for the closing Aroclor standards for all standards associated with the samples. Summary forms and raw data were evaluated.

4. SURROGATE COMPOUND RECOVERY

Surrogate compound recovery analysis was performed according to method requirements and results met specified control limits.

AROCLOR: Yes____ No__X__
Comments: Surrogate compounds were added to all samples and blanks. All surrogate

percent recoveries (%Rs) were within QC limits, with the exceptions noted below. Summary forms and raw data were evaluated.

The following table lists the samples with surrogate %Rs outside control limits and the qualifiers added to the data:

Sample Number	Parameter	Surrogate (QC limits)	%R Col 1/ Col 2	Compounds	Qualifiers
H30Y2 H30Y3 H30Y4 H30Y5 H30Y6 H30X3	Aroclor	Decachlorobiphenyl (30-150%)	26 / 25 19 / 18 21 / 20 18 / 17 16 / 15 18 / 17	All target Aroclors	UJ

5. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Matrix Spike/Matrix Spike Duplicate (MS/MSD) analyses were performed according to method requirements and results met recommended recovery and precision limits.

AROCLOR: Yes___ No_X_

Comments: Matrix Spike/Matrix Spike Duplicate (MS/MSD) analyses were performed on sample H30X3. The percent recoveries and relative percent differences (RPDs) for the Aroclor MS/MSD analyses were within QC limits, with one exception. The RPD for Aroclor 1260 on the second column at 23% exceeded 20%; however, no action is taken based solely on MS/MSD results.

6. LABORATORY CONTROL SAMPLE

Laboratory control sample (LCS) analyses were performed according to method requirements and results met recommended recovery limits.

AROCLOR: Yes_X_ No____

Comments: All percent recoveries were within QC limits.

7. AROCLOR INSTRUMENT PERFORMANCE

The pesticide resolution check mixture analysis was performed according to method requirements and results met recommended recovery limits.

AROCLOR: Yes___ No_____ NA_X_

Comments: Resolution check mixtures are not required for the Aroclor analyses.

The pesticide performance evaluation mixture (PEM) analysis was performed according to method requirements and results met recommended recovery limits.

AROCLOR: Yes___ No_____ NA__X__

Comments: PEM are not required for the Aroclor analyses.

The breakdowns of 4,4'-DDT and Endrin were less than 20% and the combined breakdown was less than 30%.

AROCLOR: Yes___ No_____ NA__X__

Comments: Breakdown analyses are not required for the Aroclor analyses.

The decachlorobiphenyl (DCB) and tetrachloro-m-xylene (TCMX) retention time shifts were within the specified control limits.

AROCLOR: Yes__X__ No____

Comments: All retention time shift criteria for this data package were met.

8. PESTICIDE CLEANUP CHECKS

The florisil cartridge lot check analysis was performed according to requirements and all spike compounds were within the specified quality control limits.

AROCLOR: Yes___ No___ NA__X

Comments: None.

The gel permeation chromatography (GPC) check was performed according to requirements and all spike compounds were within the specified quality control limits.

AROCLOR: Yes___ No___ NA__X

Comments: None.

9. LABORATORY BLANK ANALYSIS RESULTS

The laboratory blank analysis was performed according to method requirements and met specified control limits.

AROCLOR: Yes__X__ No____

Comments: Method blanks were reported per matrix, per concentration level, and for each extraction batch. Additionally, instrument blanks were analyzed as required.

Contamination was not detected in the method blanks or instrument blanks for the Aroclor parameter. Summary forms and raw data were evaluated.

10. SAMPLE RESULTS

The sample results were reviewed and all compound identifications were acceptable and met method requirements.

AROCLOR: Yes X No____

Comments: No target Aroclors were detected in the associated samples. No problems with the identification of the sample results were found in the QC samples. All retention time criteria were met for the detected results.

11. Additional Comments or Problems/Resolutions Not Addressed Above

AROCLOR: Yes___ No X

Comments: None.

ORGANIC DATA QUALITY ASSURANCE REVIEW

Region VIII

DATA QUALIFIER DEFINITIONS

For the purpose of Data Validation, the following code letters and associated definitions are provided for use by the data validator to summarize the data quality.

GENERAL QUALIFIERS for use with both INORGANIC and ORGANIC DATA

R	-	Reported value is "rejected." Resampling or reanalysis may be necessary to verify the presence or absence of the compound.
J	-	The associated numerical value is an estimated quantity because the Quality Control criteria were not met.
U J	-	The reported quantitation limit is estimated because Quality Control criteria were not met. Element or compound was not detected.
N J	-	Estimated value of a tentatively identified compound. (Identified with a CAS number.) ORGANICS analysis only.
U	-	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30S7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-01A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2531.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.64	
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30S7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-01A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2531.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30S7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-01A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2531.D

Level: (TRACE or LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L Purge Volume: 25.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30T9

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-02A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2532.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30T9

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-02A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2532.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30T9

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-02A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2532.D

Level: (TRACE or LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L Purge Volume: 25.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30W0

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-03A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2533.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30W0

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-03A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2533.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30W0

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-03A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2533.D

Level: (TRACE or LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L Purge Volume: 25.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30W1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-04A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2534.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30W1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-04A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2534.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30W1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-04A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2534.D

Level: (TRACE or LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L Purge Volume: 25.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30W2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-05A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2535.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30W2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-05A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2535.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30W2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-05A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2535.D

Level: (TRACE or LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L Purge Volume: 25.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30W3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-06A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2536.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30W3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-06A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2536.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30W3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-06A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2536.D

Level: (TRACE or LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L Purge Volume: 25.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30W4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-07A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2537.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30W4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-07A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2537.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30W4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-07A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2537.D

Level: (TRACE or LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L Purge Volume: 25.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30W5

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-08A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2538.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30W5

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-08A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2538.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30W5

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-08A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2538.D

Level: (TRACE or LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L Purge Volume: 25.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30W6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-09A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2539.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30W6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-09A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2539.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30W6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-09A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2539.D

Level: (TRACE or LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L Purge Volume: 25.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30W7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-10A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2540.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30W7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-10A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2540.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30W7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-10A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2540.D

Level: (TRACE or LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L Purge Volume: 25.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30W8

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-11A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2541.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30W8

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-11A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2541.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30W8

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-11A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2541.D

Level: (TRACE or LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L Purge Volume: 25.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30X0

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-12A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2542.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30X0

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-12A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2542.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30X0

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-12A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2542.D

Level: (TRACE or LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L Purge Volume: 25.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30X1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-13A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2543.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30X1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-13A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2543.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30X1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-13A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2543.D

Level: (TRACE or LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L Purge Volume: 25.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Y2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-14A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2544.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Y2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-14A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2544.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30Y2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-14A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2544.D

Level: (TRACE or LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L Purge Volume: 25.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Y3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-15A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2545.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Y3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-15A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2545.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30Y3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-15A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2545.D

Level: (TRACE or LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	2.388	0.93	J
	E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Y4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-16A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2546.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Y4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-16A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2546.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30Y4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-16A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2546.D

Level: (TRACE or LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L Purge Volume: 25.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Y5

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-17A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2547.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	3.8	J
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Y5

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-17A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2547.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30Y5

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-17A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2547.D

Level: (TRACE or LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	2.395	0.87	J
	E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Y6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-18A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2548.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Y6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-18A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2548.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30Y6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-18A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2548.D

Level: (TRACE or LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/01/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	2.394	0.66	J
	E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Z6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-19A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2622.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/02/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Z6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-19A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2622.D

Level: (TRACE/LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/02/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30Z6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-19A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2622.D

Level: (TRACE or LOW/MED) TRACE Date Received: 10/28/2011

% Moisture: not dec. Date Analyzed: 11/02/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L Purge Volume: 25.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

H30T9

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-02B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5204.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
100-52-7	Benzaldehyde	5.0	U
108-95-2	Phenol	5.0	U
111-44-4	Bis(2-chloroethyl)ether	5.0	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	2-Methylphenol	5.0	U
108-60-1	2,2´-Oxybis(1-chloropropane)	5.0	U
98-86-2	Acetophenone	5.0	U
106-44-5	4-Methylphenol	5.0	U
621-64-7	N-Nitroso-di-n-propylamine	5.0	U
67-72-1	Hexachloroethane	5.0	U
98-95-3	Nitrobenzene	5.0	U
78-59-1	Isophorone	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
111-91-1	Bis(2-chloroethoxy)methane	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
91-20-3	Naphthalene	5.0	U
106-47-8	4-Chloroaniline	5.0	U
87-68-3	Hexachlorobutadiene	5.0	U
105-60-2	Caprolactam	5.0	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
91-57-6	2-Methylnaphthalene	5.0	U
77-47-4	Hexachlorocyclopentadiene	5.0	U
88-06-2	2,4,6-Trichlorophenol	5.0	U
95-95-4	2,4,5-Trichlorophenol	5.0	U
92-52-4	1,1´-Biphenyl	5.0	U
91-58-7	2-Chloronaphthalene	5.0	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethylphthalate	5.0	U
606-20-2	2,6-Dinitrotoluene	5.0	U
208-96-8	Acenaphthylene	5.0	U
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	5.0	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

H30T9

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-02B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5204.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
51-28-5	2,4-Dinitrophenol	10	U
100-02-7	4-Nitrophenol	10	U
132-64-9	Dibenzofuran	5.0	U
121-14-2	2,4-Dinitrotoluene	5.0	U
84-66-2	Diethylphthalate	5.0	U
86-73-7	Fluorene	5.0	U
7005-72-3	4-Chlorophenyl-phenylether	5.0	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	10	U
86-30-6	N-Nitrosodiphenylamine (1)	5.0	U
95-94-3	1,2,4,5-Tetrachlorobenzene	5.0	U
101-55-3	4-Bromophenyl-phenylether	5.0	U
118-74-1	Hexachlorobenzene	5.0	U
1912-24-9	Atrazine	5.0	U
87-86-5	Pentachlorophenol	10	U
85-01-8	Phenanthrene	5.0	U
120-12-7	Anthracene	5.0	U
86-74-8	Carbazole	5.0	U
84-74-2	Di-n-butylphthalate	5.0	U
206-44-0	Fluoranthene	5.0	U
129-00-0	Pyrene	5.0	U
85-68-7	Butylbenzylphthalate	5.0	U
91-94-1	3,3´-Dichlorobenzidine	5.0	U
56-55-3	Benzo(a)anthracene	5.0	U
218-01-9	Chrysene	5.0	U
117-81-7	Bis(2-ethylhexyl)phthalate	5.0	U
117-84-0	Di-n-octylphthalate	5.0	U
205-99-2	Benzo(b)fluoranthene	5.0	U
207-08-9	Benzo(k)fluoranthene	5.0	U
50-32-8	Benzo(a)pyrene	5.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	U
53-70-3	Dibenzo(a,h)anthracene	5.0	U
191-24-2	Benzo(g,h,i)perylene	5.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	5.0	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

H30T9

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-02B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5204.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	5469-16-9	2(3H)-Furanone, dihydro-4-hy	4.675	7.9	BNJ
02		Unknown-01	4.878	5.7	J
03		Unknown-02	5.189	2.3	J
04		Unknown-03	5.404	7.4	J
05		Unknown-04	5.522	3.3	J
06		Unknown-05	6.358	2.9	J
07		Unknown-06	8.095	5.2	J
08		Unknown-07	10.594	8.0	J
	E96679[2]	Total Alkanes	N/A		

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

H30W0

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-03B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5205.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
100-52-7	Benzaldehyde	5.0	U
108-95-2	Phenol	5.0	U
111-44-4	Bis(2-chloroethyl)ether	5.0	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	2-Methylphenol	5.0	U
108-60-1	2,2´-Oxybis(1-chloropropane)	5.0	U
98-86-2	Acetophenone	5.0	U
106-44-5	4-Methylphenol	5.0	U
621-64-7	N-Nitroso-di-n-propylamine	5.0	U
67-72-1	Hexachloroethane	5.0	U
98-95-3	Nitrobenzene	5.0	U
78-59-1	Isophorone	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
111-91-1	Bis(2-chloroethoxy)methane	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
91-20-3	Naphthalene	5.0	U
106-47-8	4-Chloroaniline	5.0	U
87-68-3	Hexachlorobutadiene	5.0	U
105-60-2	Caprolactam	5.0	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
91-57-6	2-Methylnaphthalene	5.0	U
77-47-4	Hexachlorocyclopentadiene	5.0	U
88-06-2	2,4,6-Trichlorophenol	5.0	U
95-95-4	2,4,5-Trichlorophenol	5.0	U
92-52-4	1,1´-Biphenyl	5.0	U
91-58-7	2-Chloronaphthalene	5.0	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethylphthalate	5.0	U
606-20-2	2,6-Dinitrotoluene	5.0	U
208-96-8	Acenaphthylene	5.0	U
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	5.0	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

H30W0

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-03B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5205.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
51-28-5	2,4-Dinitrophenol	10	U
100-02-7	4-Nitrophenol	10	U
132-64-9	Dibenzofuran	5.0	U
121-14-2	2,4-Dinitrotoluene	5.0	U
84-66-2	Diethylphthalate	5.0	U
86-73-7	Fluorene	5.0	U
7005-72-3	4-Chlorophenyl-phenylether	5.0	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	10	U
86-30-6	N-Nitrosodiphenylamine (1)	5.0	U
95-94-3	1,2,4,5-Tetrachlorobenzene	5.0	U
101-55-3	4-Bromophenyl-phenylether	5.0	U
118-74-1	Hexachlorobenzene	5.0	U
1912-24-9	Atrazine	5.0	U
87-86-5	Pentachlorophenol	10	U
85-01-8	Phenanthrene	5.0	U
120-12-7	Anthracene	5.0	U
86-74-8	Carbazole	5.0	U
84-74-2	Di-n-butylphthalate	5.0	U
206-44-0	Fluoranthene	5.0	U
129-00-0	Pyrene	5.0	U
85-68-7	Butylbenzylphthalate	5.0	U
91-94-1	3,3´-Dichlorobenzidine	5.0	U
56-55-3	Benzo(a)anthracene	5.0	U
218-01-9	Chrysene	5.0	U
117-81-7	Bis(2-ethylhexyl)phthalate	5.0	U
117-84-0	Di-n-octylphthalate	5.0	U
205-99-2	Benzo(b)fluoranthene	5.0	U
207-08-9	Benzo(k)fluoranthene	5.0	U
50-32-8	Benzo(a)pyrene	5.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	U
53-70-3	Dibenzo(a,h)anthracene	5.0	U
191-24-2	Benzo(g,h,i)perylene	5.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	5.0	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

H30W0

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-03B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5205.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	5469-16-9	2(3H)-Furanone, dihydro-4-hy	4.671	6.5	BNJ
02		Unknown-01	4.874	4.6	J
03		Unknown-02	5.185	2.2	J
04		Unknown-03	5.400	5.9	J
05		Unknown-04	5.496	2.1	J
06		Unknown-05	6.354	3.4	J
07		Unknown-06	8.102	3.7	J
08		Unknown-07	10.622	3.8	J
	E96679€ [2]	Total Alkanes	N/A		

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

H30W1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-04B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5226.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/04/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
100-52-7	Benzaldehyde	5.0	U
108-95-2	Phenol	5.0	U
111-44-4	Bis(2-chloroethyl)ether	5.0	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	2-Methylphenol	5.0	U
108-60-1	2,2´-Oxybis(1-chloropropane)	5.0	U
98-86-2	Acetophenone	5.0	U
106-44-5	4-Methylphenol	5.0	U
621-64-7	N-Nitroso-di-n-propylamine	5.0	U
67-72-1	Hexachloroethane	5.0	U
98-95-3	Nitrobenzene	5.0	U
78-59-1	Isophorone	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
111-91-1	Bis(2-chloroethoxy)methane	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
91-20-3	Naphthalene	5.0	U
106-47-8	4-Chloroaniline	5.0	U
87-68-3	Hexachlorobutadiene	5.0	U
105-60-2	Caprolactam	5.0	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
91-57-6	2-Methylnaphthalene	5.0	U
77-47-4	Hexachlorocyclopentadiene	5.0	U
88-06-2	2,4,6-Trichlorophenol	5.0	U
95-95-4	2,4,5-Trichlorophenol	5.0	U
92-52-4	1,1´-Biphenyl	5.0	U
91-58-7	2-Chloronaphthalene	5.0	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethylphthalate	5.0	U
606-20-2	2,6-Dinitrotoluene	5.0	U
208-96-8	Acenaphthylene	5.0	U
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	5.0	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

H30W1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-04B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5226.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/04/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
51-28-5	2,4-Dinitrophenol	10	U
100-02-7	4-Nitrophenol	10	U
132-64-9	Dibenzofuran	5.0	U
121-14-2	2,4-Dinitrotoluene	5.0	U
84-66-2	Diethylphthalate	5.0	U
86-73-7	Fluorene	5.0	U
7005-72-3	4-Chlorophenyl-phenylether	5.0	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	10	U
86-30-6	N-Nitrosodiphenylamine (1)	5.0	U
95-94-3	1,2,4,5-Tetrachlorobenzene	5.0	U
101-55-3	4-Bromophenyl-phenylether	5.0	U
118-74-1	Hexachlorobenzene	5.0	U
1912-24-9	Atrazine	5.0	U
87-86-5	Pentachlorophenol	10	U
85-01-8	Phenanthrene	5.0	U
120-12-7	Anthracene	5.0	U
86-74-8	Carbazole	5.0	U
84-74-2	Di-n-butylphthalate	5.0	U
206-44-0	Fluoranthene	5.0	U
129-00-0	Pyrene	5.0	U
85-68-7	Butylbenzylphthalate	5.0	U
91-94-1	3,3´-Dichlorobenzidine	5.0	U
56-55-3	Benzo(a)anthracene	5.0	U
218-01-9	Chrysene	5.0	U
117-81-7	Bis(2-ethylhexyl)phthalate	5.0	U
117-84-0	Di-n-octylphthalate	5.0	U
205-99-2	Benzo(b)fluoranthene	5.0	U
207-08-9	Benzo(k)fluoranthene	5.0	U
50-32-8	Benzo(a)pyrene	5.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	U
53-70-3	Dibenzo(a,h)anthracene	5.0	U
191-24-2	Benzo(g,h,i)perylene	5.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	5.0	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

H30W1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-04B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5226.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/04/2011

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	4.602	8.9	J
02		Unknown-02	4.817	5.0	J
03		Unknown-03	5.106	7.6	J
04		Unknown-04	5.331	5.8	J
05		Unknown-05	5.374	9.7	J
06		Unknown-06	5.439	14	J
07		Unknown-07	5.524	4.4	J
08		Unknown-08	7.734	2.2	J
09		Unknown-09	8.045	3.4	J
10	301-02-0	9-Octadecenamide, (Z)-	10.618	6.5	BNJ
	E96679[2]	Total Alkanes	N/A		

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

H30W2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-05B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5207.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
100-52-7	Benzaldehyde	5.0	U
108-95-2	Phenol	5.0	U
111-44-4	Bis(2-chloroethyl)ether	5.0	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	2-Methylphenol	5.0	U
108-60-1	2,2´-Oxybis(1-chloropropane)	5.0	U
98-86-2	Acetophenone	5.0	U
106-44-5	4-Methylphenol	5.0	U
621-64-7	N-Nitroso-di-n-propylamine	5.0	U
67-72-1	Hexachloroethane	5.0	U
98-95-3	Nitrobenzene	5.0	U
78-59-1	Isophorone	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
111-91-1	Bis(2-chloroethoxy)methane	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
91-20-3	Naphthalene	5.0	U
106-47-8	4-Chloroaniline	5.0	U
87-68-3	Hexachlorobutadiene	5.0	U
105-60-2	Caprolactam	5.0	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
91-57-6	2-Methylnaphthalene	5.0	U
77-47-4	Hexachlorocyclopentadiene	5.0	U
88-06-2	2,4,6-Trichlorophenol	5.0	U
95-95-4	2,4,5-Trichlorophenol	5.0	U
92-52-4	1,1´-Biphenyl	5.0	U
91-58-7	2-Chloronaphthalene	5.0	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethylphthalate	5.0	U
606-20-2	2,6-Dinitrotoluene	5.0	U
208-96-8	Acenaphthylene	5.0	U
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	5.0	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

H30W2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-05B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5207.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
51-28-5	2,4-Dinitrophenol	10	U
100-02-7	4-Nitrophenol	10	U
132-64-9	Dibenzofuran	5.0	U
121-14-2	2,4-Dinitrotoluene	5.0	U
84-66-2	Diethylphthalate	5.0	U
86-73-7	Fluorene	5.0	U
7005-72-3	4-Chlorophenyl-phenylether	5.0	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	10	U
86-30-6	N-Nitrosodiphenylamine (1)	5.0	U
95-94-3	1,2,4,5-Tetrachlorobenzene	5.0	U
101-55-3	4-Bromophenyl-phenylether	5.0	U
118-74-1	Hexachlorobenzene	5.0	U
1912-24-9	Atrazine	5.0	U
87-86-5	Pentachlorophenol	10	U
85-01-8	Phenanthrene	5.0	U
120-12-7	Anthracene	5.0	U
86-74-8	Carbazole	5.0	U
84-74-2	Di-n-butylphthalate	5.0	U
206-44-0	Fluoranthene	5.0	U
129-00-0	Pyrene	5.0	U
85-68-7	Butylbenzylphthalate	5.0	U
91-94-1	3,3´-Dichlorobenzidine	5.0	U
56-55-3	Benzo(a)anthracene	5.0	U
218-01-9	Chrysene	5.0	U
117-81-7	Bis(2-ethylhexyl)phthalate	5.0	U
117-84-0	Di-n-octylphthalate	5.0	U
205-99-2	Benzo(b)fluoranthene	5.0	U
207-08-9	Benzo(k)fluoranthene	5.0	U
50-32-8	Benzo(a)pyrene	5.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	U
53-70-3	Dibenzo(a,h)anthracene	5.0	U
191-24-2	Benzo(g,h,i)perylene	5.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	5.0	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

H30W2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-05B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5207.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	5469-16-9	2(3H)-Furanone, dihydro-4-hy	4.671	6.9	BNJ
02		Unknown-01	4.874	4.4	J
03		Unknown-02	5.185	2.3	J
04		Unknown-03	5.400	6.3	J
05		Unknown-04	5.518	3.3	J
06		Unknown-05	6.354	3.5	J
07	57-10-3	n-Hexadecanoic acid	8.102	4.0	NJ
08		Unknown-06	10.665	6.3	J
	E96679[2]	Total Alkanes	N/A		

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

H30W3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-06B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5208.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
100-52-7	Benzaldehyde	5.0	U
108-95-2	Phenol	5.0	U
111-44-4	Bis(2-chloroethyl)ether	5.0	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	2-Methylphenol	5.0	U
108-60-1	2,2´-Oxybis(1-chloropropane)	5.0	U
98-86-2	Acetophenone	5.0	U
106-44-5	4-Methylphenol	5.0	U
621-64-7	N-Nitroso-di-n-propylamine	5.0	U
67-72-1	Hexachloroethane	5.0	U
98-95-3	Nitrobenzene	5.0	U
78-59-1	Isophorone	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
111-91-1	Bis(2-chloroethoxy)methane	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
91-20-3	Naphthalene	5.0	U
106-47-8	4-Chloroaniline	5.0	U
87-68-3	Hexachlorobutadiene	5.0	U
105-60-2	Caprolactam	5.0	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
91-57-6	2-Methylnaphthalene	5.0	U
77-47-4	Hexachlorocyclopentadiene	5.0	U
88-06-2	2,4,6-Trichlorophenol	5.0	U
95-95-4	2,4,5-Trichlorophenol	5.0	U
92-52-4	1,1´-Biphenyl	5.0	U
91-58-7	2-Chloronaphthalene	5.0	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethylphthalate	5.0	U
606-20-2	2,6-Dinitrotoluene	5.0	U
208-96-8	Acenaphthylene	5.0	U
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	5.0	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

H30W3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-06B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5208.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
51-28-5	2,4-Dinitrophenol	10	U
100-02-7	4-Nitrophenol	10	U
132-64-9	Dibenzofuran	5.0	U
121-14-2	2,4-Dinitrotoluene	5.0	U
84-66-2	Diethylphthalate	5.0	U
86-73-7	Fluorene	5.0	U
7005-72-3	4-Chlorophenyl-phenylether	5.0	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	10	U
86-30-6	N-Nitrosodiphenylamine (1)	5.0	U
95-94-3	1,2,4,5-Tetrachlorobenzene	5.0	U
101-55-3	4-Bromophenyl-phenylether	5.0	U
118-74-1	Hexachlorobenzene	5.0	U
1912-24-9	Atrazine	5.0	U
87-86-5	Pentachlorophenol	10	U
85-01-8	Phenanthrene	5.0	U
120-12-7	Anthracene	5.0	U
86-74-8	Carbazole	5.0	U
84-74-2	Di-n-butylphthalate	5.0	U
206-44-0	Fluoranthene	5.0	U
129-00-0	Pyrene	5.0	U
85-68-7	Butylbenzylphthalate	5.0	U
91-94-1	3,3´-Dichlorobenzidine	5.0	U
56-55-3	Benzo(a)anthracene	5.0	U
218-01-9	Chrysene	5.0	U
117-81-7	Bis(2-ethylhexyl)phthalate	5.0	U
117-84-0	Di-n-octylphthalate	5.0	U
205-99-2	Benzo(b)fluoranthene	5.0	U
207-08-9	Benzo(k)fluoranthene	5.0	U
50-32-8	Benzo(a)pyrene	5.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	U
53-70-3	Dibenzo(a,h)anthracene	5.0	U
191-24-2	Benzo(g,h,i)perylene	5.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	5.0	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

H30W3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-06B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5208.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	5469-16-9	2(3H)-Furanone, dihydro-4-hy	4.671	6.5	BNJ
02		Unknown-01	4.875	4.2	J
03		Unknown-02	5.186	2.1	J
04		Unknown-03	5.390	7.2	J
05		Unknown-04	5.518	3.8	J
06		Unknown-05	6.355	3.4	J
07	57-10-3	n-Hexadecanoic acid	8.103	4.3	NJ
08	112-84-5	13-Docosenamide, (Z)-	10.676	8.2	NJ
	E96679[2]	Total Alkanes	N/A		

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

H30W4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-07B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5209.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
100-52-7	Benzaldehyde	5.0	U
108-95-2	Phenol	5.0	U
111-44-4	Bis(2-chloroethyl)ether	5.0	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	2-Methylphenol	5.0	U
108-60-1	2,2´-Oxybis(1-chloropropane)	5.0	U
98-86-2	Acetophenone	5.0	U
106-44-5	4-Methylphenol	5.0	U
621-64-7	N-Nitroso-di-n-propylamine	5.0	U
67-72-1	Hexachloroethane	5.0	U
98-95-3	Nitrobenzene	5.0	U
78-59-1	Isophorone	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
111-91-1	Bis(2-chloroethoxy)methane	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
91-20-3	Naphthalene	5.0	U
106-47-8	4-Chloroaniline	5.0	U
87-68-3	Hexachlorobutadiene	5.0	U
105-60-2	Caprolactam	5.0	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
91-57-6	2-Methylnaphthalene	5.0	U
77-47-4	Hexachlorocyclopentadiene	5.0	U
88-06-2	2,4,6-Trichlorophenol	5.0	U
95-95-4	2,4,5-Trichlorophenol	5.0	U
92-52-4	1,1´-Biphenyl	5.0	U
91-58-7	2-Chloronaphthalene	5.0	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethylphthalate	5.0	U
606-20-2	2,6-Dinitrotoluene	5.0	U
208-96-8	Acenaphthylene	5.0	U
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	5.0	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

H30W4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-07B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5209.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
51-28-5	2,4-Dinitrophenol	10	U
100-02-7	4-Nitrophenol	10	U
132-64-9	Dibenzofuran	5.0	U
121-14-2	2,4-Dinitrotoluene	5.0	U
84-66-2	Diethylphthalate	5.0	U
86-73-7	Fluorene	5.0	U
7005-72-3	4-Chlorophenyl-phenylether	5.0	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	10	U
86-30-6	N-Nitrosodiphenylamine (1)	5.0	U
95-94-3	1,2,4,5-Tetrachlorobenzene	5.0	U
101-55-3	4-Bromophenyl-phenylether	5.0	U
118-74-1	Hexachlorobenzene	5.0	U
1912-24-9	Atrazine	5.0	U
87-86-5	Pentachlorophenol	10	U
85-01-8	Phenanthrene	5.0	U
120-12-7	Anthracene	5.0	U
86-74-8	Carbazole	5.0	U
84-74-2	Di-n-butylphthalate	5.0	U
206-44-0	Fluoranthene	5.0	U
129-00-0	Pyrene	5.0	U
85-68-7	Butylbenzylphthalate	5.0	U
91-94-1	3,3´-Dichlorobenzidine	5.0	U
56-55-3	Benzo(a)anthracene	5.0	U
218-01-9	Chrysene	5.0	U
117-81-7	Bis(2-ethylhexyl)phthalate	5.0	U
117-84-0	Di-n-octylphthalate	5.0	U
205-99-2	Benzo(b)fluoranthene	5.0	U
207-08-9	Benzo(k)fluoranthene	5.0	U
50-32-8	Benzo(a)pyrene	5.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	U
53-70-3	Dibenzo(a,h)anthracene	5.0	U
191-24-2	Benzo(g,h,i)perylene	5.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	5.0	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

H30W4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-07B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5209.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	4.671	6.2	J
02		Unknown-02	4.875	3.7	J
03		Unknown-03	5.400	6.2	J
04		Unknown-04	5.529	2.6	J
05		Unknown-05	6.355	3.3	J
06	57-10-3	n-Hexadecanoic acid	8.103	4.9	NJ
07		Unknown-06	10.612	7.1	J
	E96679[2]	Total Alkanes	N/A		

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

H30W5

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-08B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5210.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
100-52-7	Benzaldehyde	5.0	U
108-95-2	Phenol	5.0	U
111-44-4	Bis(2-chloroethyl)ether	5.0	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	2-Methylphenol	5.0	U
108-60-1	2,2´-Oxybis(1-chloropropane)	5.0	U
98-86-2	Acetophenone	5.0	U
106-44-5	4-Methylphenol	5.0	U
621-64-7	N-Nitroso-di-n-propylamine	5.0	U
67-72-1	Hexachloroethane	5.0	U
98-95-3	Nitrobenzene	5.0	U
78-59-1	Isophorone	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
111-91-1	Bis(2-chloroethoxy)methane	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
91-20-3	Naphthalene	5.0	U
106-47-8	4-Chloroaniline	5.0	U
87-68-3	Hexachlorobutadiene	5.0	U
105-60-2	Caprolactam	5.0	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
91-57-6	2-Methylnaphthalene	5.0	U
77-47-4	Hexachlorocyclopentadiene	5.0	U
88-06-2	2,4,6-Trichlorophenol	5.0	U
95-95-4	2,4,5-Trichlorophenol	5.0	U
92-52-4	1,1´-Biphenyl	5.0	U
91-58-7	2-Chloronaphthalene	5.0	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethylphthalate	5.0	U
606-20-2	2,6-Dinitrotoluene	5.0	U
208-96-8	Acenaphthylene	5.0	U
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	5.0	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

H30W5

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-08B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5210.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
51-28-5	2,4-Dinitrophenol	10	U
100-02-7	4-Nitrophenol	10	U
132-64-9	Dibenzofuran	5.0	U
121-14-2	2,4-Dinitrotoluene	5.0	U
84-66-2	Diethylphthalate	5.0	U
86-73-7	Fluorene	5.0	U
7005-72-3	4-Chlorophenyl-phenylether	5.0	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	10	U
86-30-6	N-Nitrosodiphenylamine (1)	5.0	U
95-94-3	1,2,4,5-Tetrachlorobenzene	5.0	U
101-55-3	4-Bromophenyl-phenylether	5.0	U
118-74-1	Hexachlorobenzene	5.0	U
1912-24-9	Atrazine	5.0	U
87-86-5	Pentachlorophenol	10	U
85-01-8	Phenanthrene	5.0	U
120-12-7	Anthracene	5.0	U
86-74-8	Carbazole	5.0	U
84-74-2	Di-n-butylphthalate	5.0	U
206-44-0	Fluoranthene	5.0	U
129-00-0	Pyrene	5.0	U
85-68-7	Butylbenzylphthalate	5.0	U
91-94-1	3,3´-Dichlorobenzidine	5.0	U
56-55-3	Benzo(a)anthracene	5.0	U
218-01-9	Chrysene	5.0	U
117-81-7	Bis(2-ethylhexyl)phthalate	5.0	U
117-84-0	Di-n-octylphthalate	5.0	U
205-99-2	Benzo(b)fluoranthene	5.0	U
207-08-9	Benzo(k)fluoranthene	5.0	U
50-32-8	Benzo(a)pyrene	5.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	U
53-70-3	Dibenzo(a,h)anthracene	5.0	U
191-24-2	Benzo(g,h,i)perylene	5.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	5.0	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

H30W5

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-08B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5210.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	5469-16-9	2(3H)-Furanone, dihydro-4-hy	4.670	6.6	BNJ
02		Unknown-01	4.874	4.1	J
03		Unknown-02	5.185	2.1	J
04		Unknown-03	5.399	5.8	J
05		Unknown-04	5.528	3.0	J
06		Unknown-05	6.353	3.1	J
07	57-10-3	n-Hexadecanoic acid	8.101	4.8	NJ
08		Unknown-06	10.621	9.2	J
	E96679[2]	Total Alkanes	N/A		

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

H30W6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-09B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5211.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
100-52-7	Benzaldehyde	5.0	U
108-95-2	Phenol	5.0	U
111-44-4	Bis(2-chloroethyl)ether	5.0	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	2-Methylphenol	5.0	U
108-60-1	2,2´-Oxybis(1-chloropropane)	5.0	U
98-86-2	Acetophenone	5.0	U
106-44-5	4-Methylphenol	5.0	U
621-64-7	N-Nitroso-di-n-propylamine	5.0	U
67-72-1	Hexachloroethane	5.0	U
98-95-3	Nitrobenzene	5.0	U
78-59-1	Isophorone	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
111-91-1	Bis(2-chloroethoxy)methane	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
91-20-3	Naphthalene	5.0	U
106-47-8	4-Chloroaniline	5.0	U
87-68-3	Hexachlorobutadiene	5.0	U
105-60-2	Caprolactam	5.0	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
91-57-6	2-Methylnaphthalene	5.0	U
77-47-4	Hexachlorocyclopentadiene	5.0	U
88-06-2	2,4,6-Trichlorophenol	5.0	U
95-95-4	2,4,5-Trichlorophenol	5.0	U
92-52-4	1,1´-Biphenyl	5.0	U
91-58-7	2-Chloronaphthalene	5.0	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethylphthalate	5.0	U
606-20-2	2,6-Dinitrotoluene	5.0	U
208-96-8	Acenaphthylene	5.0	U
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	5.0	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

H30W6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-09B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5211.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
51-28-5	2,4-Dinitrophenol	10	U
100-02-7	4-Nitrophenol	10	U
132-64-9	Dibenzofuran	5.0	U
121-14-2	2,4-Dinitrotoluene	5.0	U
84-66-2	Diethylphthalate	5.0	U
86-73-7	Fluorene	5.0	U
7005-72-3	4-Chlorophenyl-phenylether	5.0	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	10	U
86-30-6	N-Nitrosodiphenylamine (1)	5.0	U
95-94-3	1,2,4,5-Tetrachlorobenzene	5.0	U
101-55-3	4-Bromophenyl-phenylether	5.0	U
118-74-1	Hexachlorobenzene	5.0	U
1912-24-9	Atrazine	5.0	U
87-86-5	Pentachlorophenol	10	U
85-01-8	Phenanthrene	5.0	U
120-12-7	Anthracene	5.0	U
86-74-8	Carbazole	5.0	U
84-74-2	Di-n-butylphthalate	5.0	U
206-44-0	Fluoranthene	5.0	U
129-00-0	Pyrene	5.0	U
85-68-7	Butylbenzylphthalate	5.0	U
91-94-1	3,3´-Dichlorobenzidine	5.0	U
56-55-3	Benzo(a)anthracene	5.0	U
218-01-9	Chrysene	5.0	U
117-81-7	Bis(2-ethylhexyl)phthalate	5.0	U
117-84-0	Di-n-octylphthalate	5.0	U
205-99-2	Benzo(b)fluoranthene	5.0	U
207-08-9	Benzo(k)fluoranthene	5.0	U
50-32-8	Benzo(a)pyrene	5.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	U
53-70-3	Dibenzo(a,h)anthracene	5.0	U
191-24-2	Benzo(g,h,i)perylene	5.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	5.0	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

H30W6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-09B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5211.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	5469-16-9	2(3H)-Furanone, dihydro-4-hy	4.663	4.6	BNJ
02		Unknown-01	4.877	3.8	J
03		Unknown-02	5.188	2.1	J
04		Unknown-03	5.392	5.3	J
05		Unknown-04	5.521	2.1	J
06		Unknown-05	6.347	2.2	J
07	57-10-3	n-Hexadecanoic acid	8.095	5.1	NJ
08		Unknown-06	10.572	4.7	J
	E96679€ [2]	Total Alkanes	N/A		

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

H30W7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-10B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5212.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
100-52-7	Benzaldehyde	5.0	U
108-95-2	Phenol	5.0	U
111-44-4	Bis(2-chloroethyl)ether	5.0	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	2-Methylphenol	5.0	U
108-60-1	2,2´-Oxybis(1-chloropropane)	5.0	U
98-86-2	Acetophenone	5.0	U
106-44-5	4-Methylphenol	5.0	U
621-64-7	N-Nitroso-di-n-propylamine	5.0	U
67-72-1	Hexachloroethane	5.0	U
98-95-3	Nitrobenzene	5.0	U
78-59-1	Isophorone	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
111-91-1	Bis(2-chloroethoxy)methane	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
91-20-3	Naphthalene	5.0	U
106-47-8	4-Chloroaniline	5.0	U
87-68-3	Hexachlorobutadiene	5.0	U
105-60-2	Caprolactam	5.0	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
91-57-6	2-Methylnaphthalene	5.0	U
77-47-4	Hexachlorocyclopentadiene	5.0	U
88-06-2	2,4,6-Trichlorophenol	5.0	U
95-95-4	2,4,5-Trichlorophenol	5.0	U
92-52-4	1,1´-Biphenyl	5.0	U
91-58-7	2-Chloronaphthalene	5.0	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethylphthalate	5.0	U
606-20-2	2,6-Dinitrotoluene	5.0	U
208-96-8	Acenaphthylene	5.0	U
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	5.0	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

H30W7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-10B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5212.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
51-28-5	2,4-Dinitrophenol	10	U
100-02-7	4-Nitrophenol	10	U
132-64-9	Dibenzofuran	5.0	U
121-14-2	2,4-Dinitrotoluene	5.0	U
84-66-2	Diethylphthalate	5.0	U
86-73-7	Fluorene	5.0	U
7005-72-3	4-Chlorophenyl-phenylether	5.0	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	10	U
86-30-6	N-Nitrosodiphenylamine (1)	5.0	U
95-94-3	1,2,4,5-Tetrachlorobenzene	5.0	U
101-55-3	4-Bromophenyl-phenylether	5.0	U
118-74-1	Hexachlorobenzene	5.0	U
1912-24-9	Atrazine	5.0	U
87-86-5	Pentachlorophenol	10	U
85-01-8	Phenanthrene	5.0	U
120-12-7	Anthracene	5.0	U
86-74-8	Carbazole	5.0	U
84-74-2	Di-n-butylphthalate	5.0	U
206-44-0	Fluoranthene	5.0	U
129-00-0	Pyrene	5.0	U
85-68-7	Butylbenzylphthalate	5.0	U
91-94-1	3,3´-Dichlorobenzidine	5.0	U
56-55-3	Benzo(a)anthracene	5.0	U
218-01-9	Chrysene	5.0	U
117-81-7	Bis(2-ethylhexyl)phthalate	5.0	U
117-84-0	Di-n-octylphthalate	5.0	U
205-99-2	Benzo(b)fluoranthene	5.0	U
207-08-9	Benzo(k)fluoranthene	5.0	U
50-32-8	Benzo(a)pyrene	5.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	U
53-70-3	Dibenzo(a,h)anthracene	5.0	U
191-24-2	Benzo(g,h,i)perylene	5.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	5.0	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

H30W7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-10B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5212.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	5469-16-9	2(3H)-Furanone, dihydro-4-hy	4.674	8.0	BNJ
02		Unknown-01	4.877	4.8	J
03		Unknown-02	5.188	2.4	J
04		Unknown-03	5.403	7.7	J
05		Unknown-04	5.532	3.2	J
06		Unknown-05	6.357	3.3	J
07		Unknown-06	8.095	5.1	J
08		Unknown-07	10.604	8.4	J
	E96679[2]	Total Alkanes	N/A		

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

H30W8

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-11B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5213.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
100-52-7	Benzaldehyde	5.0	U
108-95-2	Phenol	5.0	U
111-44-4	Bis(2-chloroethyl)ether	5.0	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	2-Methylphenol	5.0	U
108-60-1	2,2´-Oxybis(1-chloropropane)	5.0	U
98-86-2	Acetophenone	5.0	U
106-44-5	4-Methylphenol	5.0	U
621-64-7	N-Nitroso-di-n-propylamine	5.0	U
67-72-1	Hexachloroethane	5.0	U
98-95-3	Nitrobenzene	5.0	U
78-59-1	Isophorone	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
111-91-1	Bis(2-chloroethoxy)methane	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
91-20-3	Naphthalene	5.0	U
106-47-8	4-Chloroaniline	5.0	U
87-68-3	Hexachlorobutadiene	5.0	U
105-60-2	Caprolactam	5.0	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
91-57-6	2-Methylnaphthalene	5.0	U
77-47-4	Hexachlorocyclopentadiene	5.0	U
88-06-2	2,4,6-Trichlorophenol	5.0	U
95-95-4	2,4,5-Trichlorophenol	5.0	U
92-52-4	1,1´-Biphenyl	5.0	U
91-58-7	2-Chloronaphthalene	5.0	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethylphthalate	5.0	U
606-20-2	2,6-Dinitrotoluene	5.0	U
208-96-8	Acenaphthylene	5.0	U
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	5.0	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

H30W8

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-11B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5213.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
51-28-5	2,4-Dinitrophenol	10	U
100-02-7	4-Nitrophenol	10	U
132-64-9	Dibenzofuran	5.0	U
121-14-2	2,4-Dinitrotoluene	5.0	U
84-66-2	Diethylphthalate	5.0	U
86-73-7	Fluorene	5.0	U
7005-72-3	4-Chlorophenyl-phenylether	5.0	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	10	U
86-30-6	N-Nitrosodiphenylamine (1)	5.0	U
95-94-3	1,2,4,5-Tetrachlorobenzene	5.0	U
101-55-3	4-Bromophenyl-phenylether	5.0	U
118-74-1	Hexachlorobenzene	5.0	U
1912-24-9	Atrazine	5.0	U
87-86-5	Pentachlorophenol	10	U
85-01-8	Phenanthrene	5.0	U
120-12-7	Anthracene	5.0	U
86-74-8	Carbazole	5.0	U
84-74-2	Di-n-butylphthalate	5.0	U
206-44-0	Fluoranthene	5.0	U
129-00-0	Pyrene	5.0	U
85-68-7	Butylbenzylphthalate	5.0	U
91-94-1	3,3´-Dichlorobenzidine	5.0	U
56-55-3	Benzo(a)anthracene	5.0	U
218-01-9	Chrysene	5.0	U
117-81-7	Bis(2-ethylhexyl)phthalate	5.0	U
117-84-0	Di-n-octylphthalate	5.0	U
205-99-2	Benzo(b)fluoranthene	5.0	U
207-08-9	Benzo(k)fluoranthene	5.0	U
50-32-8	Benzo(a)pyrene	5.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	U
53-70-3	Dibenzo(a,h)anthracene	5.0	U
191-24-2	Benzo(g,h,i)perylene	5.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	5.0	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

H30W8

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-11B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5213.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	5469-16-9	2(3H)-Furanone, dihydro-4-hy	4.672	8.4	BNJ
02		Unknown-01	4.876	5.1	J
03		Unknown-02	5.187	2.6	J
04		Unknown-03	5.412	8.2	J
05		Unknown-04	5.530	3.9	J
06		Unknown-05	6.366	3.7	J
07		Unknown-06	7.589	4.7	J
08	57-10-3	n-Hexadecanoic acid	8.103	5.4	NJ
09		Unknown-07	8.554	2.4	J
10	112-84-5	13-Docosenamide, (Z)-	10.623	7.0	NJ
11		Unknown-08	11.009	2.2	J
	E96679[2]	Total Alkanes	N/A		

[2]EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

H30X0

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-12B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5214.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
100-52-7	Benzaldehyde	5.0	U
108-95-2	Phenol	5.0	U
111-44-4	Bis(2-chloroethyl)ether	5.0	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	2-Methylphenol	5.0	U
108-60-1	2,2´-Oxybis(1-chloropropane)	5.0	U
98-86-2	Acetophenone	5.0	U
106-44-5	4-Methylphenol	5.0	U
621-64-7	N-Nitroso-di-n-propylamine	5.0	U
67-72-1	Hexachloroethane	5.0	U
98-95-3	Nitrobenzene	5.0	U
78-59-1	Isophorone	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
111-91-1	Bis(2-chloroethoxy)methane	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
91-20-3	Naphthalene	5.0	U
106-47-8	4-Chloroaniline	5.0	U
87-68-3	Hexachlorobutadiene	5.0	U
105-60-2	Caprolactam	5.0	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
91-57-6	2-Methylnaphthalene	5.0	U
77-47-4	Hexachlorocyclopentadiene	5.0	U
88-06-2	2,4,6-Trichlorophenol	5.0	U
95-95-4	2,4,5-Trichlorophenol	5.0	U
92-52-4	1,1´-Biphenyl	5.0	U
91-58-7	2-Chloronaphthalene	5.0	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethylphthalate	5.0	U
606-20-2	2,6-Dinitrotoluene	5.0	U
208-96-8	Acenaphthylene	5.0	U
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	5.0	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

H30X0

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-12B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5214.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
51-28-5	2,4-Dinitrophenol	10	U
100-02-7	4-Nitrophenol	10	U
132-64-9	Dibenzofuran	5.0	U
121-14-2	2,4-Dinitrotoluene	5.0	U
84-66-2	Diethylphthalate	5.0	U
86-73-7	Fluorene	5.0	U
7005-72-3	4-Chlorophenyl-phenylether	5.0	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	10	U
86-30-6	N-Nitrosodiphenylamine (1)	5.0	U
95-94-3	1,2,4,5-Tetrachlorobenzene	5.0	U
101-55-3	4-Bromophenyl-phenylether	5.0	U
118-74-1	Hexachlorobenzene	5.0	U
1912-24-9	Atrazine	5.0	U
87-86-5	Pentachlorophenol	10	U
85-01-8	Phenanthrene	5.0	U
120-12-7	Anthracene	5.0	U
86-74-8	Carbazole	5.0	U
84-74-2	Di-n-butylphthalate	5.0	U
206-44-0	Fluoranthene	5.0	U
129-00-0	Pyrene	5.0	U
85-68-7	Butylbenzylphthalate	5.0	U
91-94-1	3,3´-Dichlorobenzidine	5.0	U
56-55-3	Benzo(a)anthracene	5.0	U
218-01-9	Chrysene	5.0	U
117-81-7	Bis(2-ethylhexyl)phthalate	5.0	U
117-84-0	Di-n-octylphthalate	5.0	U
205-99-2	Benzo(b)fluoranthene	5.0	U
207-08-9	Benzo(k)fluoranthene	5.0	U
50-32-8	Benzo(a)pyrene	5.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	U
53-70-3	Dibenzo(a,h)anthracene	5.0	U
191-24-2	Benzo(g,h,i)perylene	5.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	5.0	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

H30X0

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-12B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5214.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	5469-16-9	2(3H)-Furanone, dihydro-4-hy	4.670	11	BNJ
02		Unknown-01	4.885	8.1	J
03		Unknown-02	5.185	2.4	J
04		Unknown-03	5.421	11	J
05		Unknown-04	5.539	4.6	J
06		Unknown-05	6.364	3.0	J
07	57-10-3	n-Hexadecanoic acid	8.102	5.5	NJ
08		Unknown-06	10.568	11	J
	E96679€ [2]	Total Alkanes	N/A		

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

H30X1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-13B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5215.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
100-52-7	Benzaldehyde	5.0	U
108-95-2	Phenol	5.0	U
111-44-4	Bis(2-chloroethyl)ether	5.0	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	2-Methylphenol	5.0	U
108-60-1	2,2´-Oxybis(1-chloropropane)	5.0	U
98-86-2	Acetophenone	5.0	U
106-44-5	4-Methylphenol	5.0	U
621-64-7	N-Nitroso-di-n-propylamine	5.0	U
67-72-1	Hexachloroethane	5.0	U
98-95-3	Nitrobenzene	5.0	U
78-59-1	Isophorone	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
111-91-1	Bis(2-chloroethoxy)methane	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
91-20-3	Naphthalene	5.0	U
106-47-8	4-Chloroaniline	5.0	U
87-68-3	Hexachlorobutadiene	5.0	U
105-60-2	Caprolactam	5.0	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
91-57-6	2-Methylnaphthalene	5.0	U
77-47-4	Hexachlorocyclopentadiene	5.0	U
88-06-2	2,4,6-Trichlorophenol	5.0	U
95-95-4	2,4,5-Trichlorophenol	5.0	U
92-52-4	1,1´-Biphenyl	5.0	U
91-58-7	2-Chloronaphthalene	5.0	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethylphthalate	5.0	U
606-20-2	2,6-Dinitrotoluene	5.0	U
208-96-8	Acenaphthylene	5.0	U
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	5.0	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

H30X1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-13B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5215.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
51-28-5	2,4-Dinitrophenol	10	U
100-02-7	4-Nitrophenol	10	U
132-64-9	Dibenzofuran	5.0	U
121-14-2	2,4-Dinitrotoluene	5.0	U
84-66-2	Diethylphthalate	5.0	U
86-73-7	Fluorene	5.0	U
7005-72-3	4-Chlorophenyl-phenylether	5.0	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	10	U
86-30-6	N-Nitrosodiphenylamine (1)	5.0	U
95-94-3	1,2,4,5-Tetrachlorobenzene	5.0	U
101-55-3	4-Bromophenyl-phenylether	5.0	U
118-74-1	Hexachlorobenzene	5.0	U
1912-24-9	Atrazine	5.0	U
87-86-5	Pentachlorophenol	10	U
85-01-8	Phenanthrene	5.0	U
120-12-7	Anthracene	5.0	U
86-74-8	Carbazole	5.0	U
84-74-2	Di-n-butylphthalate	5.0	U
206-44-0	Fluoranthene	5.0	U
129-00-0	Pyrene	5.0	U
85-68-7	Butylbenzylphthalate	5.0	U
91-94-1	3,3´-Dichlorobenzidine	5.0	U
56-55-3	Benzo(a)anthracene	5.0	U
218-01-9	Chrysene	5.0	U
117-81-7	Bis(2-ethylhexyl)phthalate	5.0	U
117-84-0	Di-n-octylphthalate	5.0	U
205-99-2	Benzo(b)fluoranthene	5.0	U
207-08-9	Benzo(k)fluoranthene	5.0	U
50-32-8	Benzo(a)pyrene	5.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	U
53-70-3	Dibenzo(a,h)anthracene	5.0	U
191-24-2	Benzo(g,h,i)perylene	5.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	5.0	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

H30X1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-13B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5215.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	5469-16-9	2(3H)-Furanone, dihydro-4-hy	4.673	9.0	BNJ
02		Unknown-01	4.877	5.3	J
03		Unknown-02	5.188	2.5	J
04		Unknown-03	5.413	9.5	J
05		Unknown-04	5.542	2.7	J
06		Unknown-05	6.367	3.6	J
07		Unknown-06	8.105	4.8	J
08		Unknown-07	10.582	9.7	J
	E96679[2]	Total Alkanes	N/A		

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

H30X3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-20A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5222.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/29/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
100-52-7	Benzaldehyde	5.0	U
108-95-2	Phenol	1.6	J
111-44-4	Bis(2-chloroethyl)ether	5.0	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	2-Methylphenol	5.0	U
108-60-1	2,2´-Oxybis(1-chloropropane)	5.0	U
98-86-2	Acetophenone	5.0	U
106-44-5	4-Methylphenol	9.5	
621-64-7	N-Nitroso-di-n-propylamine	5.0	U
67-72-1	Hexachloroethane	5.0	U
98-95-3	Nitrobenzene	5.0	U
78-59-1	Isophorone	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
111-91-1	Bis(2-chloroethoxy)methane	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
91-20-3	Naphthalene	5.0	U
106-47-8	4-Chloroaniline	5.0	U
87-68-3	Hexachlorobutadiene	5.0	U
105-60-2	Caprolactam	5.0	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
91-57-6	2-Methylnaphthalene	5.0	U
77-47-4	Hexachlorocyclopentadiene	5.0	U
88-06-2	2,4,6-Trichlorophenol	5.0	U
95-95-4	2,4,5-Trichlorophenol	5.0	U
92-52-4	1,1´-Biphenyl	5.0	U
91-58-7	2-Chloronaphthalene	5.0	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethylphthalate	5.0	U
606-20-2	2,6-Dinitrotoluene	5.0	U
208-96-8	Acenaphthylene	5.0	U
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	5.0	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

H30X3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-20A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5222.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/29/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
51-28-5	2,4-Dinitrophenol	10	U
100-02-7	4-Nitrophenol	10	U
132-64-9	Dibenzofuran	5.0	U
121-14-2	2,4-Dinitrotoluene	5.0	U
84-66-2	Diethylphthalate	5.0	U
86-73-7	Fluorene	5.0	U
7005-72-3	4-Chlorophenyl-phenylether	5.0	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	10	U
86-30-6	N-Nitrosodiphenylamine (1)	5.0	U
95-94-3	1,2,4,5-Tetrachlorobenzene	5.0	U
101-55-3	4-Bromophenyl-phenylether	5.0	U
118-74-1	Hexachlorobenzene	5.0	U
1912-24-9	Atrazine	5.0	U
87-86-5	Pentachlorophenol	10	U
85-01-8	Phenanthrene	5.0	U
120-12-7	Anthracene	5.0	U
86-74-8	Carbazole	5.0	U
84-74-2	Di-n-butylphthalate	5.0	U
206-44-0	Fluoranthene	5.0	U
129-00-0	Pyrene	5.0	U
85-68-7	Butylbenzylphthalate	5.0	U
91-94-1	3,3´-Dichlorobenzidine	5.0	U
56-55-3	Benzo(a)anthracene	5.0	U
218-01-9	Chrysene	5.0	U
117-81-7	Bis(2-ethylhexyl)phthalate	5.0	U
117-84-0	Di-n-octylphthalate	5.0	U
205-99-2	Benzo(b)fluoranthene	5.0	U
207-08-9	Benzo(k)fluoranthene	5.0	U
50-32-8	Benzo(a)pyrene	5.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	U
53-70-3	Dibenzo(a,h)anthracene	5.0	U
191-24-2	Benzo(g,h,i)perylene	5.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	5.0	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

H30X3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-20A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5222.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/29/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	3.419	8.4	J
02		Unknown-02	3.484	6.1	J
03		Unknown-03	3.752	4.7	J
04		Unknown-04	3.784	2.8	J
05	5208-50-4	4-Carene, (1S,3S,6R)-(-)-	3.859	5.5	NJ
06	527-84-4	Benzene, 1-methyl-2-(1-methy	3.956	38	NJ
07		Unknown-05	4.041	8.7	J
08	1195-79-5	Bicyclo[2.2.1]heptan-2-one,	4.385	19	NJ
09		Unknown-06	4.427	4.3	J
10		Unknown-07	4.503	3.4	J
11		Unknown-08	4.685	13	J
12	464-49-3	Bicyclo[2.2.1]heptan-2-one,	4.749	290	NJ
13		Unknown-09	4.792	47	J
14		Unknown-10	4.878	38	J
15		Unknown-11	4.910	33	J
16		Unknown-12	4.985	24	J
17		Unknown-13	5.082	4.7	J
18		Unknown-14	5.135	4.1	J
19		Unknown-15	5.189	7.6	J
20		Unknown-16	5.468	7.6	J
21		Unknown-17	5.521	4.6	J
22		Unknown-18	5.575	3.6	J
23	501-52-0	Benzenepropanoic acid	5.639	20	NJ
24		Unknown-19	5.725	6.8	J
25		Unknown-20	5.757	23	J
26		Unknown-21	5.843	23	J
27		Unknown-22	6.637	18	J
28	544-63-8	Tetradecanoic acid	7.387	4.0	NJ
29	57-10-3	n-Hexadecanoic acid	8.106	11	NJ
30		Unknown-23	10.636	23	J
	E96679[2]	Total Alkanes	N/A		

[2]EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

H30Y2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-14B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5216.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
100-52-7	Benzaldehyde	5.0	U
108-95-2	Phenol	5.0	U
111-44-4	Bis(2-chloroethyl)ether	5.0	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	2-Methylphenol	5.0	U
108-60-1	2,2´-Oxybis(1-chloropropane)	5.0	U
98-86-2	Acetophenone	5.0	U
106-44-5	4-Methylphenol	5.0	U
621-64-7	N-Nitroso-di-n-propylamine	5.0	U
67-72-1	Hexachloroethane	5.0	U
98-95-3	Nitrobenzene	5.0	U
78-59-1	Isophorone	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
111-91-1	Bis(2-chloroethoxy)methane	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
91-20-3	Naphthalene	5.0	U
106-47-8	4-Chloroaniline	5.0	U
87-68-3	Hexachlorobutadiene	5.0	U
105-60-2	Caprolactam	5.0	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
91-57-6	2-Methylnaphthalene	5.0	U
77-47-4	Hexachlorocyclopentadiene	5.0	U
88-06-2	2,4,6-Trichlorophenol	5.0	U
95-95-4	2,4,5-Trichlorophenol	5.0	U
92-52-4	1,1´-Biphenyl	5.0	U
91-58-7	2-Chloronaphthalene	5.0	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethylphthalate	5.0	U
606-20-2	2,6-Dinitrotoluene	5.0	U
208-96-8	Acenaphthylene	5.0	U
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	5.0	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

H30Y2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-14B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5216.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
51-28-5	2,4-Dinitrophenol	10	U
100-02-7	4-Nitrophenol	10	U
132-64-9	Dibenzofuran	5.0	U
121-14-2	2,4-Dinitrotoluene	5.0	U
84-66-2	Diethylphthalate	5.0	U
86-73-7	Fluorene	5.0	U
7005-72-3	4-Chlorophenyl-phenylether	5.0	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	10	U
86-30-6	N-Nitrosodiphenylamine (1)	5.0	U
95-94-3	1,2,4,5-Tetrachlorobenzene	5.0	U
101-55-3	4-Bromophenyl-phenylether	5.0	U
118-74-1	Hexachlorobenzene	5.0	U
1912-24-9	Atrazine	5.0	U
87-86-5	Pentachlorophenol	10	U
85-01-8	Phenanthrene	5.0	U
120-12-7	Anthracene	5.0	U
86-74-8	Carbazole	5.0	U
84-74-2	Di-n-butylphthalate	5.0	U
206-44-0	Fluoranthene	5.0	U
129-00-0	Pyrene	5.0	U
85-68-7	Butylbenzylphthalate	5.0	U
91-94-1	3,3´-Dichlorobenzidine	5.0	U
56-55-3	Benzo(a)anthracene	5.0	U
218-01-9	Chrysene	5.0	U
117-81-7	Bis(2-ethylhexyl)phthalate	5.0	U
117-84-0	Di-n-octylphthalate	5.0	U
205-99-2	Benzo(b)fluoranthene	5.0	U
207-08-9	Benzo(k)fluoranthene	5.0	U
50-32-8	Benzo(a)pyrene	5.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	U
53-70-3	Dibenzo(a,h)anthracene	5.0	U
191-24-2	Benzo(g,h,i)perylene	5.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	5.0	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

H30Y2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-14B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5216.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	5469-16-9	2(3H)-Furanone, dihydro-4-hy	4.670	8.3	BNJ
02		Unknown-01	4.874	5.5	J
03		Unknown-02	5.185	2.4	J
04		Unknown-03	5.399	7.6	J
05		Unknown-04	5.742	7.0	J
06		Unknown-05	5.967	2.5	J
07	57-10-3	n-Hexadecanoic acid	8.101	7.9	NJ
08	57-11-4	Octadecanoic acid	8.756	2.9	NJ
09		Unknown-06	10.600	12	J
	E96679[2]	Total Alkanes	N/A		

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

H30Y3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-15B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5217.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
100-52-7	Benzaldehyde	5.0	U
108-95-2	Phenol	5.0	U
111-44-4	Bis(2-chloroethyl)ether	5.0	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	2-Methylphenol	5.0	U
108-60-1	2,2´-Oxybis(1-chloropropane)	5.0	U
98-86-2	Acetophenone	5.0	U
106-44-5	4-Methylphenol	5.0	U
621-64-7	N-Nitroso-di-n-propylamine	5.0	U
67-72-1	Hexachloroethane	5.0	U
98-95-3	Nitrobenzene	5.0	U
78-59-1	Isophorone	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
111-91-1	Bis(2-chloroethoxy)methane	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
91-20-3	Naphthalene	5.0	U
106-47-8	4-Chloroaniline	5.0	U
87-68-3	Hexachlorobutadiene	5.0	U
105-60-2	Caprolactam	5.0	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
91-57-6	2-Methylnaphthalene	5.0	U
77-47-4	Hexachlorocyclopentadiene	5.0	U
88-06-2	2,4,6-Trichlorophenol	5.0	U
95-95-4	2,4,5-Trichlorophenol	5.0	U
92-52-4	1,1´-Biphenyl	5.0	U
91-58-7	2-Chloronaphthalene	5.0	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethylphthalate	5.0	U
606-20-2	2,6-Dinitrotoluene	5.0	U
208-96-8	Acenaphthylene	5.0	U
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	5.0	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

H30Y3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-15B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5217.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
51-28-5	2,4-Dinitrophenol	10	U
100-02-7	4-Nitrophenol	10	U
132-64-9	Dibenzofuran	5.0	U
121-14-2	2,4-Dinitrotoluene	5.0	U
84-66-2	Diethylphthalate	5.0	U
86-73-7	Fluorene	5.0	U
7005-72-3	4-Chlorophenyl-phenylether	5.0	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	10	U
86-30-6	N-Nitrosodiphenylamine [1]	5.0	U
95-94-3	1,2,4,5-Tetrachlorobenzene	5.0	U
101-55-3	4-Bromophenyl-phenylether	5.0	U
118-74-1	Hexachlorobenzene	5.0	U
1912-24-9	Atrazine	5.0	U
87-86-5	Pentachlorophenol	10	U
85-01-8	Phenanthrene	5.0	U
120-12-7	Anthracene	5.0	U
86-74-8	Carbazole	5.0	U
84-74-2	Di-n-butylphthalate	5.0	U
206-44-0	Fluoranthene	5.0	U
129-00-0	Pyrene	5.0	U
85-68-7	Butylbenzylphthalate	5.0	U
91-94-1	3,3´-Dichlorobenzidine	5.0	U
56-55-3	Benzo(a)anthracene	5.0	U
218-01-9	Chrysene	5.0	U
117-81-7	Bis(2-ethylhexyl)phthalate	5.0	U
117-84-0	Di-n-octylphthalate	5.0	U
205-99-2	Benzo(b)fluoranthene	5.0	U
207-08-9	Benzo(k)fluoranthene	5.0	U
50-32-8	Benzo(a)pyrene	5.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	U
53-70-3	Dibenzo(a,h)anthracene	5.0	U
191-24-2	Benzo(g,h,i)perylene	5.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	5.0	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

H30Y3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-15B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5217.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	3.738	2.0	J
02		Unknown-02	4.156	2.6	J
03		Unknown-03	4.414	2.5	J
04	5469-16-9	2(3H)-Furanone, dihydro-4-hy	4.671	8.5	BNJ
05		Unknown-04	4.875	6.5	J
06		Unknown-05	5.079	2.0	J
07		Unknown-06	5.186	3.5	J
08		Unknown-07	5.250	2.7	J
09		Unknown-08	5.400	6.7	J
10		Unknown-09	5.744	9.1	J
11		Unknown-10	5.969	3.4	J
12	57-10-3	n-Hexadecanoic acid	8.103	11	NJ
13		Unknown-11	9.486	4.9	J
	E96679[2]	Total Alkanes	N/A		

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

H30Y4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-16B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5218.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
100-52-7	Benzaldehyde	5.0	U
108-95-2	Phenol	5.0	U
111-44-4	Bis(2-chloroethyl)ether	5.0	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	2-Methylphenol	5.0	U
108-60-1	2,2´-Oxybis(1-chloropropane)	5.0	U
98-86-2	Acetophenone	5.0	U
106-44-5	4-Methylphenol	5.0	U
621-64-7	N-Nitroso-di-n-propylamine	5.0	U
67-72-1	Hexachloroethane	5.0	U
98-95-3	Nitrobenzene	5.0	U
78-59-1	Isophorone	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
111-91-1	Bis(2-chloroethoxy)methane	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
91-20-3	Naphthalene	5.0	U
106-47-8	4-Chloroaniline	5.0	U
87-68-3	Hexachlorobutadiene	5.0	U
105-60-2	Caprolactam	5.0	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
91-57-6	2-Methylnaphthalene	5.0	U
77-47-4	Hexachlorocyclopentadiene	5.0	U
88-06-2	2,4,6-Trichlorophenol	5.0	U
95-95-4	2,4,5-Trichlorophenol	5.0	U
92-52-4	1,1´-Biphenyl	5.0	U
91-58-7	2-Chloronaphthalene	5.0	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethylphthalate	5.0	U
606-20-2	2,6-Dinitrotoluene	5.0	U
208-96-8	Acenaphthylene	5.0	U
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	5.0	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

H30Y4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-16B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5218.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
51-28-5	2,4-Dinitrophenol	10	U
100-02-7	4-Nitrophenol	10	U
132-64-9	Dibenzofuran	5.0	U
121-14-2	2,4-Dinitrotoluene	5.0	U
84-66-2	Diethylphthalate	5.0	U
86-73-7	Fluorene	5.0	U
7005-72-3	4-Chlorophenyl-phenylether	5.0	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	10	U
86-30-6	N-Nitrosodiphenylamine [1]	5.0	U
95-94-3	1,2,4,5-Tetrachlorobenzene	5.0	U
101-55-3	4-Bromophenyl-phenylether	5.0	U
118-74-1	Hexachlorobenzene	5.0	U
1912-24-9	Atrazine	5.0	U
87-86-5	Pentachlorophenol	10	U
85-01-8	Phenanthrene	5.0	U
120-12-7	Anthracene	5.0	U
86-74-8	Carbazole	5.0	U
84-74-2	Di-n-butylphthalate	5.0	U
206-44-0	Fluoranthene	5.0	U
129-00-0	Pyrene	5.0	U
85-68-7	Butylbenzylphthalate	5.0	U
91-94-1	3,3´-Dichlorobenzidine	5.0	U
56-55-3	Benzo(a)anthracene	5.0	U
218-01-9	Chrysene	5.0	U
117-81-7	Bis(2-ethylhexyl)phthalate	5.0	U
117-84-0	Di-n-octylphthalate	5.0	U
205-99-2	Benzo(b)fluoranthene	5.0	U
207-08-9	Benzo(k)fluoranthene	5.0	U
50-32-8	Benzo(a)pyrene	5.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	U
53-70-3	Dibenzo(a,h)anthracene	5.0	U
191-24-2	Benzo(g,h,i)perylene	5.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	5.0	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

H30Y4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-16B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5218.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	4.155	2.3	J
02		Unknown-02	4.412	2.3	J
03		Unknown-03	4.669	8.9	J
04		Unknown-04	4.873	7.3	J
05		Unknown-05	5.077	2.1	J
06		Unknown-06	5.195	2.4	J
07		Unknown-07	5.399	8.1	J
08		Unknown-08	5.742	7.6	J
09		Unknown-09	5.967	3.9	J
10	57-10-3	n-Hexadecanoic acid	8.101	6.6	NJ
11		Unknown-10	9.484	4.1	J
12		Unknown-11	10.557	7.9	J
13		Unknown-12	10.600	8.1	J
	E96679[2]	Total Alkanes	N/A		

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

H30Y5

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-17B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5219.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
100-52-7	Benzaldehyde	5.0	U
108-95-2	Phenol	5.0	U
111-44-4	Bis(2-chloroethyl)ether	5.0	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	2-Methylphenol	5.0	U
108-60-1	2,2´-Oxybis(1-chloropropane)	5.0	U
98-86-2	Acetophenone	5.0	U
106-44-5	4-Methylphenol	5.0	U
621-64-7	N-Nitroso-di-n-propylamine	5.0	U
67-72-1	Hexachloroethane	5.0	U
98-95-3	Nitrobenzene	5.0	U
78-59-1	Isophorone	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
111-91-1	Bis(2-chloroethoxy)methane	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
91-20-3	Naphthalene	5.0	U
106-47-8	4-Chloroaniline	5.0	U
87-68-3	Hexachlorobutadiene	5.0	U
105-60-2	Caprolactam	5.0	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
91-57-6	2-Methylnaphthalene	5.0	U
77-47-4	Hexachlorocyclopentadiene	5.0	U
88-06-2	2,4,6-Trichlorophenol	5.0	U
95-95-4	2,4,5-Trichlorophenol	5.0	U
92-52-4	1,1´-Biphenyl	5.0	U
91-58-7	2-Chloronaphthalene	5.0	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethylphthalate	5.0	U
606-20-2	2,6-Dinitrotoluene	5.0	U
208-96-8	Acenaphthylene	5.0	U
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	5.0	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

H30Y5

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-17B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5219.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
51-28-5	2,4-Dinitrophenol	10	U
100-02-7	4-Nitrophenol	10	U
132-64-9	Dibenzofuran	5.0	U
121-14-2	2,4-Dinitrotoluene	5.0	U
84-66-2	Diethylphthalate	5.0	U
86-73-7	Fluorene	5.0	U
7005-72-3	4-Chlorophenyl-phenylether	5.0	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	10	U
86-30-6	N-Nitrosodiphenylamine (1)	5.0	U
95-94-3	1,2,4,5-Tetrachlorobenzene	5.0	U
101-55-3	4-Bromophenyl-phenylether	5.0	U
118-74-1	Hexachlorobenzene	5.0	U
1912-24-9	Atrazine	5.0	U
87-86-5	Pentachlorophenol	10	U
85-01-8	Phenanthrene	5.0	U
120-12-7	Anthracene	5.0	U
86-74-8	Carbazole	5.0	U
84-74-2	Di-n-butylphthalate	5.0	U
206-44-0	Fluoranthene	5.0	U
129-00-0	Pyrene	5.0	U
85-68-7	Butylbenzylphthalate	5.0	U
91-94-1	3,3´-Dichlorobenzidine	5.0	U
56-55-3	Benzo(a)anthracene	5.0	U
218-01-9	Chrysene	5.0	U
117-81-7	Bis(2-ethylhexyl)phthalate	5.0	U
117-84-0	Di-n-octylphthalate	5.0	U
205-99-2	Benzo(b)fluoranthene	5.0	U
207-08-9	Benzo(k)fluoranthene	5.0	U
50-32-8	Benzo(a)pyrene	5.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	U
53-70-3	Dibenzo(a,h)anthracene	5.0	U
191-24-2	Benzo(g,h,i)perylene	5.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	5.0	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

H30Y5

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-17B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5219.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	4.413	2.3	J
02		Unknown-02	4.553	2.0	J
03	5469-16-9	2(3H)-Furanone, dihydro-4-hy	4.671	8.1	BNJ
04		Unknown-03	4.875	5.5	J
05		Unknown-04	5.186	3.2	J
06		Unknown-05	5.250	2.1	J
07		Unknown-06	5.400	5.8	J
08		Unknown-07	5.743	7.1	J
09		Unknown-08	5.968	2.2	J
10		Unknown-09	6.376	3.5	J
11		Unknown-10	7.309	6.0	J
12		Unknown-11	7.727	23	J
13	57-10-3	n-Hexadecanoic acid	8.102	15	NJ
14		Unknown-12	8.263	9.2	J
15		Unknown-13	15.137	2.2	J
	E96679[2]	Total Alkanes	N/A		

[2]EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

H30Y6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-18B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5220.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
100-52-7	Benzaldehyde	5.0	U
108-95-2	Phenol	5.0	U
111-44-4	Bis(2-chloroethyl)ether	5.0	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	2-Methylphenol	5.0	U
108-60-1	2,2´-Oxybis(1-chloropropane)	5.0	U
98-86-2	Acetophenone	5.0	U
106-44-5	4-Methylphenol	5.0	U
621-64-7	N-Nitroso-di-n-propylamine	5.0	U
67-72-1	Hexachloroethane	5.0	U
98-95-3	Nitrobenzene	5.0	U
78-59-1	Isophorone	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
111-91-1	Bis(2-chloroethoxy)methane	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
91-20-3	Naphthalene	5.0	U
106-47-8	4-Chloroaniline	5.0	U
87-68-3	Hexachlorobutadiene	5.0	U
105-60-2	Caprolactam	5.0	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
91-57-6	2-Methylnaphthalene	5.0	U
77-47-4	Hexachlorocyclopentadiene	5.0	U
88-06-2	2,4,6-Trichlorophenol	5.0	U
95-95-4	2,4,5-Trichlorophenol	5.0	U
92-52-4	1,1´-Biphenyl	5.0	U
91-58-7	2-Chloronaphthalene	5.0	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethylphthalate	5.0	U
606-20-2	2,6-Dinitrotoluene	5.0	U
208-96-8	Acenaphthylene	5.0	U
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	5.0	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

H30Y6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-18B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5220.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
51-28-5	2,4-Dinitrophenol	10	U
100-02-7	4-Nitrophenol	10	U
132-64-9	Dibenzofuran	5.0	U
121-14-2	2,4-Dinitrotoluene	5.0	U
84-66-2	Diethylphthalate	5.0	U
86-73-7	Fluorene	5.0	U
7005-72-3	4-Chlorophenyl-phenylether	5.0	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	10	U
86-30-6	N-Nitrosodiphenylamine (1)	5.0	U
95-94-3	1,2,4,5-Tetrachlorobenzene	5.0	U
101-55-3	4-Bromophenyl-phenylether	5.0	U
118-74-1	Hexachlorobenzene	5.0	U
1912-24-9	Atrazine	5.0	U
87-86-5	Pentachlorophenol	10	U
85-01-8	Phenanthrene	5.0	U
120-12-7	Anthracene	5.0	U
86-74-8	Carbazole	5.0	U
84-74-2	Di-n-butylphthalate	1.0	J
206-44-0	Fluoranthene	5.0	U
129-00-0	Pyrene	5.0	U
85-68-7	Butylbenzylphthalate	5.0	U
91-94-1	3,3´-Dichlorobenzidine	5.0	U
56-55-3	Benzo(a)anthracene	5.0	U
218-01-9	Chrysene	5.0	U
117-81-7	Bis(2-ethylhexyl)phthalate	5.0	U
117-84-0	Di-n-octylphthalate	5.0	U
205-99-2	Benzo(b)fluoranthene	5.0	U
207-08-9	Benzo(k)fluoranthene	5.0	U
50-32-8	Benzo(a)pyrene	5.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	U
53-70-3	Dibenzo(a,h)anthracene	5.0	U
191-24-2	Benzo(g,h,i)perylene	5.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	5.0	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

H30Y6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-18B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5220.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	4.670	7.5	J
02		Unknown-02	4.874	5.9	J
03		Unknown-03	5.185	2.7	J
04		Unknown-04	5.399	6.5	J
05		Unknown-05	5.743	3.7	J
06		Unknown-06	6.365	5.0	J
07		Unknown-07	6.633	2.5	J
08		Unknown-08	6.740	4.3	J
09	7044-92-0	1,4-Benzenedicarboxaldehyde,	7.512	6.1	NJ
10		Unknown-09	7.727	4.3	J
11	638-53-9	Tridecanoic acid	8.102	10	NJ
12		Unknown-10	8.263	4.1	J
13		Unknown-11	8.306	9.2	J
14		Unknown-12	10.590	30	J
15		Unknown-13	14.322	2.0	J
16		Unknown-14	15.426	2.5	J
	E96679[2]	Total Alkanes	N/A		

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

H30Z6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-19B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5221.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
100-52-7	Benzaldehyde	5.0	U
108-95-2	Phenol	5.0	U
111-44-4	Bis(2-chloroethyl)ether	5.0	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	2-Methylphenol	5.0	U
108-60-1	2,2´-Oxybis(1-chloropropane)	5.0	U
98-86-2	Acetophenone	5.0	U
106-44-5	4-Methylphenol	5.0	U
621-64-7	N-Nitroso-di-n-propylamine	5.0	U
67-72-1	Hexachloroethane	5.0	U
98-95-3	Nitrobenzene	5.0	U
78-59-1	Isophorone	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
111-91-1	Bis(2-chloroethoxy)methane	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
91-20-3	Naphthalene	5.0	U
106-47-8	4-Chloroaniline	5.0	U
87-68-3	Hexachlorobutadiene	5.0	U
105-60-2	Caprolactam	5.0	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
91-57-6	2-Methylnaphthalene	5.0	U
77-47-4	Hexachlorocyclopentadiene	5.0	U
88-06-2	2,4,6-Trichlorophenol	5.0	U
95-95-4	2,4,5-Trichlorophenol	5.0	U
92-52-4	1,1´-Biphenyl	5.0	U
91-58-7	2-Chloronaphthalene	5.0	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethylphthalate	5.0	U
606-20-2	2,6-Dinitrotoluene	5.0	U
208-96-8	Acenaphthylene	5.0	U
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	5.0	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

H30Z6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-19B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5221.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
51-28-5	2,4-Dinitrophenol	10	U
100-02-7	4-Nitrophenol	10	U
132-64-9	Dibenzofuran	5.0	U
121-14-2	2,4-Dinitrotoluene	5.0	U
84-66-2	Diethylphthalate	5.0	U
86-73-7	Fluorene	5.0	U
7005-72-3	4-Chlorophenyl-phenylether	5.0	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	10	U
86-30-6	N-Nitrosodiphenylamine (1)	5.0	U
95-94-3	1,2,4,5-Tetrachlorobenzene	5.0	U
101-55-3	4-Bromophenyl-phenylether	5.0	U
118-74-1	Hexachlorobenzene	5.0	U
1912-24-9	Atrazine	5.0	U
87-86-5	Pentachlorophenol	10	U
85-01-8	Phenanthrene	5.0	U
120-12-7	Anthracene	5.0	U
86-74-8	Carbazole	5.0	U
84-74-2	Di-n-butylphthalate	5.0	U
206-44-0	Fluoranthene	5.0	U
129-00-0	Pyrene	5.0	U
85-68-7	Butylbenzylphthalate	5.0	U
91-94-1	3,3´-Dichlorobenzidine	5.0	U
56-55-3	Benzo(a)anthracene	5.0	U
218-01-9	Chrysene	5.0	U
117-81-7	Bis(2-ethylhexyl)phthalate	5.0	U
117-84-0	Di-n-octylphthalate	5.0	U
205-99-2	Benzo(b)fluoranthene	5.0	U
207-08-9	Benzo(k)fluoranthene	5.0	U
50-32-8	Benzo(a)pyrene	5.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	U
53-70-3	Dibenzo(a,h)anthracene	5.0	U
191-24-2	Benzo(g,h,i)perylene	5.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	5.0	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

H30Z6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-19B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5221.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/02/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/03/2011

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	4.413	2.5	J
02		Unknown-02	4.670	9.6	J
03		Unknown-03	5.185	2.8	J
04		Unknown-04	5.399	7.5	J
05		Unknown-05	5.742	7.4	J
06		Unknown-06	6.107	2.6	J
07		Unknown-07	6.214	4.2	J
08		Unknown-08	6.354	4.7	J
09	57-10-3	n-Hexadecanoic acid	8.102	5.7	NJ
10		Unknown-09	9.506	2.6	J
11		Unknown-10	10.632	7.6	J
	E96679[2]	Total Alkanes	N/A		

[2]EPA-designated Registry Number.

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30T9

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-02B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2K7950F.D/E2K7950R.D

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Extraction: (Type) SEPF Date Extracted: 11/02/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/16/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U
37324-23-5	Aroclor-1262	1.0	U
11100-14-4	Aroclor-1268	1.0	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30W0

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-03B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2K7951F.D/E2K7951R.D

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Extraction: (Type) SEPF Date Extracted: 11/02/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/16/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U
37324-23-5	Aroclor-1262	1.0	U
11100-14-4	Aroclor-1268	1.0	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30W1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-04B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2K7952F.D/E2K7952R.D

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Extraction: (Type) SEPF Date Extracted: 11/02/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/16/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U
37324-23-5	Aroclor-1262	1.0	U
11100-14-4	Aroclor-1268	1.0	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30W2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-05B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2K7953F.D/E2K7953R.D

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Extraction: (Type) SEPF Date Extracted: 11/02/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/16/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U
37324-23-5	Aroclor-1262	1.0	U
11100-14-4	Aroclor-1268	1.0	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30W3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-06B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2K7954F.D/E2K7954R.D

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Extraction: (Type) SEPF Date Extracted: 11/02/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/16/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U
37324-23-5	Aroclor-1262	1.0	U
11100-14-4	Aroclor-1268	1.0	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30W4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-07B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2K7955F.D/E2K7955R.D

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Extraction: (Type) SEPF Date Extracted: 11/02/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/16/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U
37324-23-5	Aroclor-1262	1.0	U
11100-14-4	Aroclor-1268	1.0	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30W5

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-08B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2K7956F.D/E2K7956R.D

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Extraction: (Type) SEPF Date Extracted: 11/02/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/16/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U
37324-23-5	Aroclor-1262	1.0	U
11100-14-4	Aroclor-1268	1.0	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30W6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-09B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2K7957F.D/E2K7957R.D

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Extraction: (Type) SEPF Date Extracted: 11/02/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/16/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U
37324-23-5	Aroclor-1262	1.0	U
11100-14-4	Aroclor-1268	1.0	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30W7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-10B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2K7958F.D/E2K7958R.D

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Extraction: (Type) SEPF Date Extracted: 11/02/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/16/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U
37324-23-5	Aroclor-1262	1.0	U
11100-14-4	Aroclor-1268	1.0	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30W8

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-11B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2K7959F.D/E2K7959R.D

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Extraction: (Type) SEPF Date Extracted: 11/02/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/16/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U
37324-23-5	Aroclor-1262	1.0	U
11100-14-4	Aroclor-1268	1.0	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30X0

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-12B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2K7960F.D/E2K7960R.D

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Extraction: (Type) SEPF Date Extracted: 11/02/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/16/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U
37324-23-5	Aroclor-1262	1.0	U
11100-14-4	Aroclor-1268	1.0	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30X1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-13B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2K7961F.D/E2K7961R.D

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Extraction: (Type) SEPF Date Extracted: 11/02/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/16/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U
37324-23-5	Aroclor-1262	1.0	U
11100-14-4	Aroclor-1268	1.0	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30X3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-20A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2K7968F.D/E2K7968R.D

% Moisture: Decanted: (Y/N) Date Received: 10/29/2011

Extraction: (Type) SEPF Date Extracted: 11/02/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/16/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U
37324-23-5	Aroclor-1262	1.0	U
11100-14-4	Aroclor-1268	1.0	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Y2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-14B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2K7962F.D/E2K7962R.D

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Extraction: (Type) SEPF Date Extracted: 11/02/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/16/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U
37324-23-5	Aroclor-1262	1.0	U
11100-14-4	Aroclor-1268	1.0	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Y3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-15B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2K7963F.D/E2K7963R.D

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Extraction: (Type) SEPF Date Extracted: 11/02/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/16/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U
37324-23-5	Aroclor-1262	1.0	U
11100-14-4	Aroclor-1268	1.0	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Y4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-16B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2K7964F.D/E2K7964R.D

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Extraction: (Type) SEPF Date Extracted: 11/02/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/16/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U
37324-23-5	Aroclor-1262	1.0	U
11100-14-4	Aroclor-1268	1.0	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Y5

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-17B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2K7965F.D/E2K7965R.D

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Extraction: (Type) SEPF Date Extracted: 11/02/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/16/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U
37324-23-5	Aroclor-1262	1.0	U
11100-14-4	Aroclor-1268	1.0	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Y6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-18B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2K7966F.D/E2K7966R.D

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Extraction: (Type) SEPF Date Extracted: 11/02/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/16/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U
37324-23-5	Aroclor-1262	1.0	U
11100-14-4	Aroclor-1268	1.0	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Z6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30S7

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2200-19B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2K7967F.D/E2K7967R.D

% Moisture: Decanted: (Y/N) Date Received: 10/28/2011

Extraction: (Type) SEPF Date Extracted: 11/02/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/16/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U
37324-23-5	Aroclor-1262	1.0	U
11100-14-4	Aroclor-1268	1.0	U

REGION VIII
DATA VALIDATION REPORT
ORGANICS

Case/TDD No.	Site Name		Operable Unit
41926 / 1109-07	Smurfit Stone Mill		
RPM/OSC Name			
Robert Parker			
Contractor Laboratory	**Contract No.**	**SDG No.**	**Laboratory DPO/Region**
Spectrum Analytical, Inc.	EP-W-11-033	H30X4	

Review Assigned Date: February 9, 2012 Data Validator: Bill Fear/Amy Ballow
Review Completion Date: February 22, 2012 Report Reviewer: Amy Ballow/Bill Fear

Sample ID	Matrix	Analysis
H30W9	Water	CLP - Trace Volatile, Semivolatile, and Aroclor Analyses by SOM01.2
H30X2		
H30X3		CLP - Trace Volatile Analyses by SOM01.2
H30X4		CLP - Trace Volatile, Semivolatile, and Aroclor Analyses by SOM01.2
H30X6		
H30X7		
H30X9		
H30Y0		
H30Y1		
H30Y7		
H30Z2		
H30Z3		
H30Z4		
H30Z5		

Sample ID	Matrix	Analysis
H30Z7	Water	CLP - Trace Volatile, Semivolatile, and Aroclor Analyses by SOM01.2
H30Z8		
H3BA1		CLP - Trace Volatile Analyses by SOM01.2

DATA QUALITY STATEMENT

( ) Data are ACCEPTABLE according to EPA Functional Guidelines with no qualifiers (flags) added by the reviewer.
( ) Data are UNACCEPTABLE according to EPA Functional Guidelines.
(X) Data are acceptable with QUALIFICATIONS noted in review.

PO Attention Required? Yes _____ No ___X__ If yes, list the items that require attention:

ORGANIC DATA VALIDATION REPORT

REVIEW NARRATIVE SUMMARY

This data package was reviewed according to the EPA document "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," June 2008.

Raw data were reviewed for completeness and transcription accuracy onto the summary forms. Approximately 10-20% of the results reported in each of the samples, calibrations, and QC analyses were recalculated and verified. If problems were identified during the recalculation of results, a more thorough calculation check was performed.

The data package, SDG No. H30X4, consisted of 17 water samples for CLP trace volatile organic analyses and 15 water samples for CLP semivolatile organic and Aroclor organic analyses by SOM01.2.

The following tables list data qualifiers added to the data. (Please see Data Qualifier Definitions, attached to the end of this report.)

Sample Number	Volatile Compound	Qualifier	Reason For Qualification	Review Section
H30Y0	Carbon disulfide	J	DMC percent recovery below QC Limits	5

Sample Number	Semivolatile Compound	Qualifier	Reason For Qualification	Review Section
H30W9, H30X2, H30X6, H30X7, H30X9, H30Y0, H30Y1, H30Z2, H30Z3, H30Z4, H30Z5, H30Z7, H30Z8	All semivolatile compounds	J/UJ	Extraction holding time exceeded	2
H30X4, H30Y7	Pentachlorophenol		Initial calibration %RSD > 20%	4
H30Z7	Hexachlorobenzene Atrazine Phenanthrene Anthracene		DMC percent recoveries below QC limits, but above 10%	5
H30X4, H30X7, H30X9, H30Y0, H30Y1, H30Y7, H30Z7	Fluoranthene Pyrene Benzo(a)anthracene Chrysene			
H30X2, H30X4, H30X7, H30X9, H30Y0, H30Y1, H30Z7	Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene Indeno(1,2,3-cd)pyrene Dibenzo(a,h)anthracene Benzo(g,h,i)perylene	J/UJ	DMC percent recoveries below QC limits, but above 10%	5

Sample Number	Aroclor Compound	Qualifier	Reason For Qualification	Review Section
H30W9, H30X2, H30X6, H30X7, H30X9, H30Y0, H30Y1, H30Z2, H30Z3, H30Z4, H30Z5, H30Z7, H30Z8	All target Aroclors	UJ	Extraction holding time exceeded	2
H30X4, H30Y7		R	Surrogate percent recoveries less than 10%	4
H30X2, H30X6, H30X7, H30Y1, H30Z7		UJ	Surrogate percent recoveries below QC limits but greater than 10%	

1. DELIVERABLES

All deliverables were present as specified in the subcontract.

VOA: Yes X No____

Comments: None.

2. HOLDING TIMES AND PRESERVATION CRITERIA

All holding times and preservation criteria were met.

VOA: Yes X No____

Comments: The preserved water samples were analyzed within 14 days from sample collection.

According to the case narrative and chain-of-custody records (COCs), the sample coolers were received at the laboratory between 6.0 °C and 10 °C, which are at or above the temperature criteria of 4 ± 2 °C. As per the Region instructions, if the samples were received below 10 °C, the laboratory noted the issue and proceeded with the analyses. Therefore, no action was taken.

According to the case narrative, the COC lists the analysis as VOA (volatiles) for this analysis; however, this case required TVOA (trace volatiles). In accordance with previous direction from Region 8, the laboratory noted this issue and performed the TVOA analyses as indicated on the Scheduling Notification form.

According to the case narrative, various samples were received with non-CLP IDs. CLP IDs were provided on the containers and the laboratory matched up the information between the COC station locations and the sample containers to identify the samples. As per Region 8, the laboratory utilized the CLP ID to identify the samples throughout the data package. Additionally, handwritten notes with the CLP IDs were written on the affected COCs. [Note: Sample SSSW99B was assigned the CLP ID H3BA1 by the Region 8 SMO coordinator.]

Sample tags were not received with the samples. In accordance with previous direction from Region 8, the laboratory noted this issue and proceeded with the analyses.

No other shipping or receiving problems were noted. Chain-of-custody, summary forms, and raw data were evaluated.

3. BFB PERFORMANCE RESULTS

The bromofluorobenzene (BFB) performance results were within the specified control limits. All appropriate BFB results were included.

VOA: Yes X No____

Comments: BFB instrument performance checks were run for each 12 hours of analysis. Ion abundance criteria were met and were verified from raw data.

4. INSTRUMENT CALIBRATIONS: INITIAL AND CONTINUING STANDARDS

Initial instrument calibrations were performed according to method requirements and met the project specified control limits.

VOA: Yes X No____

Comments: Initial calibration standards containing both target compounds and the deuterated monitoring compounds (DMCs) were analyzed at the correct frequency. The average relative response factors (RRFs) for the compounds identified by the Functional Guidelines as poor responders were greater than or equal to 0.01. The RRFs for all other target compounds were greater than or equal to 0.05. The percent relative standard deviations (%RSDs) of the RRFs were less than or equal to 40% for the poor responders and less than or equal to 30% for all other analytes. Summary forms and raw data were evaluated.

Continuing instrument calibrations were performed according to method requirements and met project specified control limits.

VOA: Yes X No____

Comments: Continuing calibration standards containing both target compounds and the DMCs were analyzed at the beginning and end of each 12-hour analysis period. The RRFs for the compounds identified by the Functional Guidelines as poor responders were greater than or equal to 0.01. The RRFs for all other target compounds were greater than or equal to 0.05. The opening standard percent differences (%Ds) of the RRFs were less than or equal to 40% for the poor responders and less than or equal to 30% for all other trace analytes. All %Ds for the closing standards were less than 50% and all RRFs were greater than 0.01. Summary forms and raw data were evaluated.

5. DEUTERATED MONITORING COMPOUNDS

Deuterated monitoring compound (DMC) recovery analysis was performed according to method requirements and results met specified control limits.

VOA: Yes____ No X_____
Comments: DMCs were added to all samples and blanks. Summary forms and raw data were

evaluated.

The following table lists the samples with DMC percent recoveries (%Rs) outside control limits and the qualifiers added to the data.

Sample Number	DMC	%R	QC Limits	Compounds	Qualifiers
H30Y0	Chloroethane-d5	132%	71-131%	Carbon disulfide	J
				Bromomethane Chloromethane Chloroethane Dichlorodifluoromethane	None*
H30X4 H30X9 H30Y0 H30Y1 H30Z2 H30Z3 H30Z7 H30Z8 H3BA1	1,1-Dichloroethene-d2	106% 107% 110% 110% 107% 110% 107% 108% 109%	55-104%	1,1-Dichloroethene cis-1,2-Dichloroethene trans-1,2-Dichloroethene	

* No action was required for these compounds listed above because the affected compounds were not detected in these analyses.

The recoveries for the DMC 1,1-dichloroethene-d2 exceeded QC limits for the MS/MSD analyses of sample H30Z2. However, no action is taken on QC samples (i.e., blanks and MS/MSD).

6. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Matrix Spike/Matrix Spike Duplicate (MS/MSD) analyses were performed according to method requirements and results met recommended recovery and precision limits.

VOA: Yes X No____

Comments: MS/MSD analyses were performed on sample H30Z2 for the volatile analyses. The percent recoveries and relative percent differences (RPDs) were within QC limits. Summary forms and raw data were evaluated.

7. INTERNAL STANDARD AREA

Internal standard area analysis was performed according to method requirements and results met specified control limits.

VOA: Yes X No____

Comments: Internal standard area counts did not vary by more than a factor of two from the associated 12-hour calibration standard. The internal standard retention times did not vary more than ± 30 seconds from the retention time of the associated 12-hour calibration standards. Summary forms and raw data were evaluated.

8. LABORATORY BLANK ANALYSIS RESULTS

The laboratory blank analysis was performed according to method requirements and results met specified limits.

VOA: Yes X No____

Comments: Method blank analyses were performed after the calibration standards and once for every 12-hour time period. A storage blank was also analyzed. No target compounds were detected in the method or storage blanks. Summary forms and raw data were evaluated.

9. SAMPLE RESULTS

The sample results were reviewed and all compound identifications were acceptable and met contract requirements.

VOA: Yes X No____

Comments: Sample relative retention times (RRTs) were within ± 0.06 RRT units of the standard RRT. Ions present in the standard mass spectrum at a relative intensity greater than 10% were present in the sample spectrum. Relative intensities of ions agreed within ±20% between standard and sample spectra. All samples results and CRQL were correctly calculated and reported.

Sample H30X4 was analyzed at a 4X dilution for the VOA analysis. According to the laboratory, the sample was analyzed at this dilution due to foaming. All results were correctly adjusted for the dilution factor.

Tentatively identified compounds (TICs) were qualitatively assessed by a mass spectral library search.

10. Additional Comments or Problems/Resolutions Not Addressed Above

VOA: Yes___ No_X_

Comments: None.

1. DELIVERABLES

All deliverables were present as specified in the subcontract.

BNA: Yes X No____

Comments: None.

2. HOLDING TIMES AND PRESERVATION CRITERIA

All holding times and preservation criteria were met.

BNA: Yes___ No X

Comments: All sample extracts were analyzed within 40 days from sample extraction. However, the majority of the samples were not extracted within seven days of sample collection.

The following table lists the samples extracted beyond the seven day extraction holding time, the days outside the holding time, compounds affected, and the qualifiers added to the data:

Sample	Days outside the extraction holding times	Compounds	Qualifiers
H30W9, H30X2, H30X6, H30X7, H30X9, H30Y0, H30Y1, H30Z2, H30Z3, H30Z4, H30Z5, H30Z7, H30Z8	3 to 4 days	All semivolatile compounds	J/UJ

The case narrative did not address the samples that exceeded holding times.

According to the case narrative and chain-of-custody records (COCs), the sample coolers were received at the laboratory between 6.0 °C and 10 °C, which are at or above the temperature criteria of 4 ± 2 °C. As per the Region instructions, if the samples were received below 10 °C, the laboratory noted the issue and proceeded with the analyses. Therefore, no action was taken.

According to the case narrative, various samples were received with non-CLP IDs. CLP IDs were provided on the containers and the laboratory matched up the information between the COC station locations and the sample containers to identify the samples. As per Region 8, the laboratory utilized the CLP ID to identify the samples throughout the data package. Additionally, handwritten notes with the CLP IDs were written on the affected COCs.

Additionally, the case narrative indicated two of four amber bottles for sample H30X2; and one of four amber bottles for sample H30X9 were received broken at the laboratory. The laboratory had sufficient sample volume remaining for the SVOA analyses.

Sample tags were not received with the samples. In accordance with previous direction from Region 8, the laboratory noted this issue and proceeded with the analyses.

No other shipping or receiving problems were noted. Chain-of-custody, summary forms, and raw data were evaluated.

3. DFTPP PERFORMANCE RESULTS

The decafluorotriphenylphosphine (DFTPP) performance results were within the specified control limits. All appropriate DFTPP results were included.

BNA: Yes X No____

Comments: Instrument performance check solutions were analyzed at the beginning of each 12-hour period of sample analysis. Ion abundance criteria were met and were verified from raw data.

4. INSTRUMENT CALIBRATIONS: INITIAL AND CONTINUING STANDARDS

Initial instrument calibrations were performed according to method requirements and met the specified control limits listed in the Functional Guidelines.

BNA: Yes____ No X

Comments: Initial calibration standards containing both target compounds and the deuterated monitoring compounds (DMCs) were analyzed at the correct frequency. The average relative response factors (RRFs) for the compounds identified by the Functional Guidelines as poor responders were greater than or equal to 0.01 and the RRFs for all other target compounds were greater than or equal to 0.05. The percent relative standard deviations (%RSDs) of the RRFs were less than or equal to 40% for the poor responders and less than or equal to 20% for all other analytes with the exception below. Summary forms and raw data were evaluated.

The following table lists the %RSD that was greater than 20% and qualifiers added to the data:

Compound	RRFs	%RSD	Associated Samples	Qualifiers
Pentachlorophenol	--	20.8%	H30X4, H30Y7	UJ

Continuing instrument calibrations were performed according to method requirements and met specified control limits listed in the Functional Guidelines.

BNA: Yes X No____

Comments: Continuing calibration standards containing both target compounds and the DMCs were analyzed at the beginning and end of each 12-hour analysis period. The RRFs for the compounds identified by the Functional Guidelines as poor responders were greater than or equal to 0.01 and the RRFs for all other target compounds were greater than or equal to 0.05. The opening standard percent differences (%Ds) of the RRFs were less than or equal to 40% for the poor responders and less than or equal to 25% for all other analytes. All %Ds for the closing standards were less than 50%. Summary forms and raw data were evaluated.

5. DEUTERATED MONITORING COMPOUNDS

Deuterated monitoring compound (DMC) recovery analysis was performed according to method requirements and results met specified control limits.

BNA: Yes___ No X

Comments: DMCs were added to all samples and blanks. Summary forms and raw data were evaluated.

The following table lists the samples with DMC percent recoveries (%Rs) outside control limits and the qualifiers added to the data.

Sample Number	DMC	%R	QC Limits	Compounds	Qualifiers
H30Z7	Anthracence-d10	41%	44-110%	Hexachlorobenzene Atrazine Phenanthrene Anthracene	J/UJ
H30X4 H30Y7 H30X9 H30Y0 H30Y1 H30Z7 H30X7	Pyrene-d10	40% 37% 31% 30% 32% 26% 32%	52-119%	Fluoranthene Pyrene Benzo(a)anthracene Chrysene	
H30X4 H30X2 H30X9 H30Y0 H30Y1 H30Z7 H30X7	Benzo(a)pyrene-d12	22% 29% 24% 21% 22% 19% 20%	32-121%	Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene Indeno(1,2,3-cd)pyrene Dibenzo(a,h)anthracene Benzo(g,h,i)perylene	J/UJ

Sample Number	DMC	%R	QC Limits	Compounds	Qualifiers
H30W9	Phenol-d5	107%	39-106%	Benzaldehyde Phenol	* None
H30Y7	4,6-Dinitro-2-methylphenol-d2	107%	22-104%	4,6-Dinitro-2-methylphenol	

* No action was required for the compounds listed above because the affected compounds were not detected in these analyses.

6. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Matrix Spike/Matrix Spike Duplicate (MS/MSD) analyses were performed according to method requirements and results met recommended recovery and precision limits.

BNA: Yes___ No_X_

Comments: MS/MSD analyses were performed on sample H30Z2. Summary forms and raw data were evaluated.

The following table lists the results for the MS/MSD analyses that were outside criteria; however, no action is taken based solely on MS/MSD results:

Sample	Compound	Percent Recovery		RPD	Control Limits		Qualifiers
		MS	MSD		% R	RPD	
H30Z2	4-Nitrophenol	103%	111%	--	10-80%	--	None

7. INTERNAL STANDARD AREA

Internal standard area analysis was performed according to method requirements and results met specified control limits.

BNA: Yes_X_ No____

Comments: Internal standard area counts did not vary by more than a factor of two from the associated 12-hour calibration standard. The internal standard retention times did not vary more than ± 30 seconds from the retention time of the associated 12-hour calibration standards. Summary forms and raw data were evaluated.

8. LABORATORY BLANK ANALYSIS RESULTS

The laboratory blank analysis was performed according to method requirements and results met specified control limits.

BNA: Yes X No ___

Comments: Method blanks were reported per matrix, per concentration level, and for each extraction batch. No target compound contamination was detected in the blank analyses. Summary forms and raw data were evaluated.

9. SAMPLE RESULTS

The sample results were reviewed and all compound identifications were acceptable and met contract requirements.

BNA: Yes X No ___

Comments: Sample relative retention times (RRTs) were within ± 0.06 RRT units of the standard RRT. Ions present in the standard mass spectrum at a relative intensity greater than 10% were present in the sample spectrum. Relative intensities of ions agreed within ± 20% between standard and sample spectra. All samples results and CRQL were correctly calculated and reported.

TICs were qualitatively assessed by a mass spectral library search.

10. Additional Comments or Problems/Resolutions Not Addressed Above

BNA: Yes ___ No X

Comments: None.

1. DELIVERABLES

All deliverables were present as specified in the subcontract.

AROCLOR: Yes X No____

Comments: None.

2. HOLDING TIMES AND PRESERVATION CRITERIA

All holding times and preservation criteria were met.

AROCLOR: Yes___ No X

Comments: All sample extracts were analyzed within 40 days from sample extraction. However, the majority of the samples were not extracted within seven days of sample collection.

The following table lists the samples extracted beyond the seven day extraction holding time, the days outside the holding time, compounds affected, and the qualifiers added to the data:

Sample	Days outside the extraction holding times	Compounds	Qualifiers
H30W9, H30X2, H30X6, H30X7, H30X9, H30Y0, H30Y1, H30Z2, H30Z3, H30Z4, H30Z5, H30Z7, H30Z8	3 to 4 days	Aroclors	J/UJ
H30X4RX, H30Y7RX	11 days		* None

The case narrative did not address the samples that exceeded holding times in the original analyses.

* Samples H30X4 and H30Y7 were re-extracted due to low and extremely low surrogate recoveries in the original analyses. Although the re-extracted analyses (samples H30X4RX and H30Y7RX) were extracted outside the seven day holding time, no action was necessary as all results were reported from the original analyses which were extracted within holding times.

According to the case narrative and chain-of-custody records (COCs), the sample coolers were received at the laboratory between 6.0 °C and 10 °C, which are at or above the temperature criteria of 4 ± 2 °C. As per the Region instructions, if the samples were received below 10 °C, the laboratory noted the issue and proceeded with the analyses. Therefore, no action was taken.

According to the case narrative, various samples were received with non-CLP IDs. CLP IDs were provided on the containers and the laboratory matched up the information between the COC station locations and the sample containers to identify the samples. As per Region 8, the laboratory utilized the CLP ID to identify the samples throughout the data package. Additionally, handwritten notes with the CLP IDs were written on the affected COCs.

Additionally, the case narrative indicated two of four amber bottles for sample H30X2; and one of four amber bottles for sample H30X9 were received broken at the laboratory. The laboratory had sufficient sample volume remaining for the analyses.

Sample tags were not received with the samples. In accordance with previous direction from Region 8, the laboratory noted this issue and proceeded with the analyses.

No other shipping or receiving problems were noted. Chain-of-custody, summary forms, and raw data were evaluated.

3. INSTRUMENT CALIBRATIONS: INITIAL AND CONTINUING STANDARDS

The multi-component target compound analyses were performed according to method requirements:

AROCLOR: Yes X No____

Comments: None.

Initial instrument calibrations were performed according to requirements and met the specified control limits listed in the functional guidelines.

AROCLOR: Yes X No____

Comments: Percent relative standard deviations (%RSDs) for the calibration peaks used to quantitate the Aroclors were less than or equal to 20%.

Continuing instrument calibrations were performed according to requirements and met specified control limits listed in the functional guidelines.

AROCLOR: Yes X No____

Comments: Continuing calibration standards were analyzed at the required frequency. The percent differences (%Ds) were less than or equal to 15% for the opening Aroclor standards and less than or equal to 50% for the closing Aroclor standards for all standards associated with the samples. Summary forms and raw data were evaluated.

4. SURROGATE COMPOUND RECOVERY

Surrogate compound recovery analysis was performed according to method requirements and results met specified control limits.

AROCLOR: Yes___ No__X__

Comments: Surrogate compounds were added to all samples and blanks. All surrogate percent recoveries (%Rs) were within QC limits, with the exceptions noted below. Summary forms and raw data were evaluated.

The following table lists the samples with surrogate %Rs outside control limits and the qualifiers added to the data:

Sample Number	Parameter	Surrogate (QC limits)	%R Col 1/ Col 2	Compounds	Qualifiers
H30X4 H30Y7	Aroclor	Tetrachloro-m-xylene (30-150%)	12 / 14 23 / 27	All target Aroclors	R – Non detects
		Decachlorobiphenyl (30-150%)	8 / 8 8 / 7		
H30X4RX, H30Y7RX		Tetrachloro-m-xylene (30-150%)	14 / 26 26 / 30		* None
		Decachlorobiphenyl (30-150%)	13 / 8 11 / 6		
H30X2 H30X6 H30X7 H30Y1 H30Z7			19 / 18 21 / 26 12 / 10 25 / 25 23 / 22		UJ
H30X9 H30Y0			-- / 28 -- / 30		** None

[Note: Surrogate recoveries less than 10% are considered to be severely low and non-detected results are qualified as rejected (R).]

* The re-extracted analyses for samples H30X4RX and H30Y7RX reported similar surrogate recoveries compared to the original analyses of these samples. Since the re-extracted analyses were extracted outside holding times, all results were reported from the original analyses which were extracted within holding times. Therefore, no action was taken on the re-extracted analyses (samples H30X4RX and H30Y7RX) due to surrogate results.

** No action is taken on these samples as only one of the four surrogates recoveries were below criteria.

5. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Matrix Spike/Matrix Spike Duplicate (MS/MSD) analyses were performed according to method requirements and results met recommended recovery and precision limits.

AROCLOR: Yes X No____

Comments: Matrix Spike/Matrix Spike Duplicate (MS/MSD) analyses were performed on sample H30Z2 for the Aroclor analyses. The percent recoveries and relative percent differences (RPDs) for the Aroclor MS/MSD analyses were within QC limits.

6. LABORATORY CONTROL SAMPLE

Laboratory control sample (LCS) analyses were performed according to method requirements and results met recommended recovery limits.

AROCLOR: Yes X No____

Comments: All percent recoveries were within QC limits.

7. AROCLOR INSTRUMENT PERFORMANCE

The pesticide resolution check mixture analysis was performed according to method requirements and results met recommended recovery limits.

AROCLOR: Yes____ No_____ NA X

Comments: Resolution check mixtures are not required for the Aroclor analyses.

The pesticide performance evaluation mixture (PEM) analysis was performed according to method requirements and results met recommended recovery limits.

AROCLOR: Yes____ No_____ NA X

Comments: PEM are not required for the Aroclor analyses.

The breakdowns of 4,4'-DDT and Endrin were less than 20% and the combined breakdown was less than 30%.

AROCLOR: Yes____ No_____ NA X

Comments: Breakdown analyses are not required for the Aroclor analyses.

The decachlorobiphenyl (DCB) and tetrachloro-m-xylene (TCMX) retention time shifts were within the specified control limits.

AROCLOR: Yes X No

Comments: All retention time shift criteria for this data package were met.

8. PESTICIDE CLEANUP CHECKS

The florisil cartridge lot check analysis was performed according to requirements and all spike compounds were within the specified quality control limits.

AROCLOR: Yes No NA X

Comments: None.

The gel permeation chromatography (GPC) check was performed according to requirements and all spike compounds were within the specified quality control limits.

AROCLOR: Yes No NA X

Comments: None.

9. LABORATORY BLANK ANALYSIS RESULTS

The laboratory blank analysis was performed according to method requirements and met specified control limits.

AROCLOR: Yes X No

Comments: Method blanks were reported per matrix, per concentration level, and for each extraction batch. Additionally, instrument blanks were analyzed as required. Contamination was not detected in the method blanks or instrument blanks for the Aroclor parameter. Summary forms and raw data were evaluated.

10. SAMPLE RESULTS

The sample results were reviewed and all compound identifications were acceptable and met method requirements.

AROCLOR: Yes X No

Comments: No target Aroclors were detected in the associated samples. No problems with the identification of the sample results were found in the QC samples. All retention time criteria were met for the detected results.

11. Additional Comments or Problems/Resolutions Not Addressed Above

AROCLOR: Yes___ No_X_

Comments: None.

ORGANIC DATA QUALITY ASSURANCE REVIEW

Region VIII

DATA QUALIFIER DEFINITIONS

For the purpose of Data Validation, the following code letters and associated definitions are provided for use by the data validator to summarize the data quality.

GENERAL QUALIFIERS for use with both INORGANIC and ORGANIC DATA

R	-	Reported value is "rejected." Resampling or reanalysis may be necessary to verify the presence or absence of the compound.
J	-	The associated numerical value is an estimated quantity because the Quality Control criteria were not met.
U J	-	The reported quantitation limit is estimated because Quality Control criteria were not met. Element or compound was not detected.
N J	-	Estimated value of a tentatively identified compound. (Identified with a CAS number.) ORGANICS analysis only.
U	-	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30W9

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-03B

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2848.D

Level: (TRACE/LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.65	
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30W9

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-03B

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2848.D

Level: (TRACE/LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30W9

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-03B

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2848.D

Level: (TRACE or LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L Purge Volume: 25.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30X2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-04B

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2849.D

Level: (TRACE/LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.22	J
107-06-2	1,2-Dichloroethane	0.50	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30X2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-04B

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2849.D

Level: (TRACE/LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30X2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-04B

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2849.D

Level: (TRACE or LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	4041-09-2	Cyclopentanone, 2,5-dimethyl	10.309	1.1	NJ
02		Unknown-01	11.122	1.5	J
03		Unknown-02	11.586	1.0	J
04	470-67-7	7-Oxabicyclo[2.2.1]heptane,	11.934	1.0	NJ
05	527-84-4	Benzene, 1-methyl-2-(1-methy	12.062	1.6	NJ
06		Unknown-03	12.805	0.53	J
07	4695-62-9	Bicyclo[2.2.1]heptan-2-one,	13.525	12	NJ
08		Unknown-04	14.129	15	J
09		Unknown-05	14.199	2.9	J
10		Unknown-06	14.338	2.2	J
11	464-48-2	Bicyclo[2.2.1]heptan-2-one,	14.501	7.7	NJ
	E96679€[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30X3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-05A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2853.D

Level: (TRACE/LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.20	J
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.32	J
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.21	J
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30X3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-05A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2853.D

Level: (TRACE/LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30X3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-05A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2853.D

Level: (TRACE or LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	3.393	2.2	J
02	535-77-3	Benzene, 1-methyl-3-(1-methy	12.126	4.7	NJ
03	464-48-2	Bicyclo[2.2.1]heptan-2-one,	14.495	2.9	NJ
	E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30X4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-01B

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2846.D

Level: (TRACE/LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 4.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
75-71-8	Dichlorodifluoromethane	2.0	U
74-87-3	Chloromethane	2.0	U
75-01-4	Vinyl chloride	2.0	U
74-83-9	Bromomethane	2.0	U
75-00-3	Chloroethane	2.0	U
75-69-4	Trichlorofluoromethane	2.0	U
75-35-4	1,1-Dichloroethene	2.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	U
67-64-1	Acetone	38	
75-15-0	Carbon disulfide	2.0	U
79-20-9	Methyl acetate	2.0	U
75-09-2	Methylene chloride	2.0	U
156-60-5	trans-1,2-Dichloroethene	2.0	U
1634-04-4	Methyl tert-butyl ether	2.0	U
75-34-3	1,1-Dichloroethane	2.0	U
156-59-2	cis-1,2-Dichloroethene	2.0	U
78-93-3	2-Butanone	20	U
74-97-5	Bromochloromethane	2.0	U
67-66-3	Chloroform	2.0	U
71-55-6	1,1,1-Trichloroethane	2.0	U
110-82-7	Cyclohexane	3.6	
56-23-5	Carbon tetrachloride	2.0	U
71-43-2	Benzene	1.3	J
107-06-2	1,2-Dichloroethane	2.0	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30X4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-01B

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2846.D

Level: (TRACE/LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 4.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
79-01-6	Trichloroethene	2.0	U
108-87-2	Methylcyclohexane	2.2	
78-87-5	1,2-Dichloropropane	2.0	U
75-27-4	Bromodichloromethane	2.0	U
10061-01-5	cis-1,3-Dichloropropene	2.0	U
108-10-1	4-Methyl-2-pentanone	20	U
108-88-3	Toluene	1.4	J
10061-02-6	trans-1,3-Dichloropropene	2.0	U
79-00-5	1,1,2-Trichloroethane	2.0	U
127-18-4	Tetrachloroethene	2.0	U
591-78-6	2-Hexanone	20	U
124-48-1	Dibromochloromethane	2.0	U
106-93-4	1,2-Dibromoethane	2.0	U
108-90-7	Chlorobenzene	50	
100-41-4	Ethylbenzene	1.7	J
179601-23-1	m,p-Xylene	42	
95-47-6	o-Xylene	16	
100-42-5	Styrene	2.0	U
75-25-2	Bromoform	2.0	U
98-82-8	Isopropylbenzene	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U
541-73-1	1,3-Dichlorobenzene	2.0	U
106-46-7	1,4-Dichlorobenzene	2.0	U
95-50-1	1,2-Dichlorobenzene	2.0	U
96-12-8	1,2-Dibromo-3-chloropropane	2.0	U
120-82-1	1,2,4-Trichlorobenzene	2.0	U
87-61-6	1,2,3-Trichlorobenzene	2.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30X4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-01B

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2846.D

Level: (TRACE or LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 4.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	4.989	2.4	J
02	7459-71-4	3,5-Dimethylcyclopentene	7.335	3.3	NJ
03	103-65-1	Benzene, propyl-	11.086	4.9	NJ
04	611-14-3	Benzene, 1-ethyl-2-methyl-	11.191	26	NJ
05	108-67-8	Benzene, 1,3,5-trimethyl-	11.295	13	NJ
06	620-14-4	Benzene, 1-ethyl-3-methyl-	11.539	8.8	NJ
07	526-73-8	Benzene, 1,2,3-trimethyl-	11.748	22	NJ
08		Unknown-02	11.946	2.4	J
09	99-87-6	Benzene, 1-methyl-4-(1-methy	12.073	2.7	NJ
10	95-63-6	Benzene, 1,2,4-trimethyl-	12.259	6.7	NJ
11	766-90-5	cis-.beta.-Methylstyrene	12.503	3.6	NJ
12	126-21-6	L-Fenchone	13.537	7.3	NJ
13		Unknown-03	14.141	8.5	J
14	464-49-3	Bicyclo[2.2.1]heptan-2-one,	14.501	2.6	NJ
	E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30X6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-06B

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2854.D

Level: (TRACE/LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.44	J
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30X6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-06B

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2854.D

Level: (TRACE/LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30X6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-06B

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2854.D

Level: (TRACE or LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	14.145	1.1	J
02	464-48-2	Bicyclo[2.2.1]heptan-2-one,	14.493	1.6	NJ
	E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30X7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-07B

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2855.D

Level: (TRACE/LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30X7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-07B

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2855.D

Level: (TRACE/LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30X7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-07B

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2855.D

Level: (TRACE or LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	74-93-1	Methanethiol	2.413	1.2	NJ
	E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30X9

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-08B

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2856.D

Level: (TRACE/LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30X9

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-08B

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2856.D

Level: (TRACE/LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30X9

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-08B

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2856.D

Level: (TRACE or LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L Purge Volume: 25.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Y0

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-09B

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2857.D

Level: (TRACE/LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.83	
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Y0

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-09B

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2857.D

Level: (TRACE/LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30Y0

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-09B

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2857.D

Level: (TRACE or LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	2.416	1.7	J
02		Unknown-02	11.137	0.61	J
	E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Y1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-10B

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2858.D

Level: (TRACE/LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Y1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-10B

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2858.D

Level: (TRACE/LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30Y1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-10B

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2858.D

Level: (TRACE or LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L Purge Volume: 25.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Y7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-02B

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2847.D

Level: (TRACE/LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Y7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-02B

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2847.D

Level: (TRACE/LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30Y7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-02B

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2847.D

Level: (TRACE or LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L Purge Volume: 25.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Z2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-11B

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2870.D

Level: (TRACE/LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Z2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-11B

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2870.D

Level: (TRACE/LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30Z2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-11B

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2870.D

Level: (TRACE or LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L Purge Volume: 25.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO. H30Z3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-12B

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2860.D

Level: (TRACE/LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO. H30Z3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-12B

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2860.D

Level: (TRACE/LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30Z3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-12B

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2860.D

Level: (TRACE or LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L Purge Volume: 25.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Z4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-13B

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2861.D

Level: (TRACE/LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Z4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-13B

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2861.D

Level: (TRACE/LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30Z4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-13B

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2861.D

Level: (TRACE or LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L Purge Volume: 25.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Z5

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-14B

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2862.D

Level: (TRACE/LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Z5

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-14B

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2862.D

Level: (TRACE/LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30Z5

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-14B

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2862.D

Level: (TRACE or LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L Purge Volume: 25.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO. H30Z7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-15B

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2863.D

Level: (TRACE/LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.56	
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO. H30Z7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-15B

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2863.D

Level: (TRACE/LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30Z7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-15B

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2863.D

Level: (TRACE or LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	74-93-1	Methanethiol	2.406	1.3	NJ
	E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Z8

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-16B

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2864.D

Level: (TRACE/LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO. H30Z8

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-16B

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2864.D

Level: (TRACE/LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30Z8

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-16B

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2864.D

Level: (TRACE or LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L Purge Volume: 25.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H3BA1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-17A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2865.D

Level: (TRACE/LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.39	J
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H3BA1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-17A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2865.D

Level: (TRACE/LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H3BA1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-17A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: V5N2865.D

Level: (TRACE or LOW/MED) TRACE Date Received: 11/03/2011

% Moisture: not dec. Date Analyzed: 11/10/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L Purge Volume: 25.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30W9

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-03A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S4E8650.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/10/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
100-52-7	Benzaldehyde	5.0	U
108-95-2	Phenol	5.0	U
111-44-4	Bis(2-chloroethyl)ether	5.0	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	2-Methylphenol	5.0	U
108-60-1	2,2´-Oxybis(1-chloropropane)	5.0	U
98-86-2	Acetophenone	5.0	U
106-44-5	4-Methylphenol	5.0	U
621-64-7	N-Nitroso-di-n-propylamine	5.0	U
67-72-1	Hexachloroethane	5.0	U
98-95-3	Nitrobenzene	5.0	U
78-59-1	Isophorone	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
111-91-1	Bis(2-chloroethoxy)methane	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
91-20-3	Naphthalene	5.0	U
106-47-8	4-Chloroaniline	5.0	U
87-68-3	Hexachlorobutadiene	5.0	U
105-60-2	Caprolactam	5.0	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
91-57-6	2-Methylnaphthalene	5.0	U
77-47-4	Hexachlorocyclopentadiene	5.0	U
88-06-2	2,4,6-Trichlorophenol	5.0	U
95-95-4	2,4,5-Trichlorophenol	5.0	U
92-52-4	1,1´-Biphenyl	5.0	U
91-58-7	2-Chloronaphthalene	5.0	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethylphthalate	5.0	U
606-20-2	2,6-Dinitrotoluene	5.0	U
208-96-8	Acenaphthylene	5.0	U
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	5.0	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30W9

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-03A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S4E8650.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/10/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
51-28-5	2,4-Dinitrophenol	10	U
100-02-7	4-Nitrophenol	10	U
132-64-9	Dibenzofuran	5.0	U
121-14-2	2,4-Dinitrotoluene	5.0	U
84-66-2	Diethylphthalate	1.2	J
86-73-7	Fluorene	5.0	U
7005-72-3	4-Chlorophenyl-phenylether	5.0	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	10	U
86-30-6	N-Nitrosodiphenylamine (1)	5.0	U
95-94-3	1,2,4,5-Tetrachlorobenzene	5.0	U
101-55-3	4-Bromophenyl-phenylether	5.0	U
118-74-1	Hexachlorobenzene	5.0	U
1912-24-9	Atrazine	5.0	U
87-86-5	Pentachlorophenol	10	U
85-01-8	Phenanthrene	5.0	U
120-12-7	Anthracene	5.0	U
86-74-8	Carbazole	5.0	U
84-74-2	Di-n-butylphthalate	5.0	U
206-44-0	Fluoranthene	5.0	U
129-00-0	Pyrene	5.0	U
85-68-7	Butylbenzylphthalate	5.0	U
91-94-1	3,3´-Dichlorobenzidine	5.0	U
56-55-3	Benzo(a)anthracene	5.0	U
218-01-9	Chrysene	5.0	U
117-81-7	Bis(2-ethylhexyl)phthalate	5.0	U
117-84-0	Di-n-octylphthalate	5.0	U
205-99-2	Benzo(b)fluoranthene	5.0	U
207-08-9	Benzo(k)fluoranthene	5.0	U
50-32-8	Benzo(a)pyrene	5.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	U
53-70-3	Dibenzo(a,h)anthracene	5.0	U
191-24-2	Benzo(g,h,i)perylene	5.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	5.0	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30W9

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-03A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S4E8650.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/10/2011

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	4.324	5.7	J
02		Unknown-02	4.676	3.0	J
03		Unknown-03	4.914	13	J
04		Unknown-04	5.048	5.5	J
05		Unknown-05	6.032	11	J
06		Unknown-06	7.688	2.8	J
07		Unknown-07	8.040	4.7	J
08		Unknown-08	9.551	2.2	J
09	112-84-5	13-Docosenamide, (Z)-	10.958	13	BNJ
	E96679[2]	Total Alkanes	N/A		

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30X2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-04A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S4E8651.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/10/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
100-52-7	Benzaldehyde	5.0	U
108-95-2	Phenol	5.0	U
111-44-4	Bis(2-chloroethyl)ether	5.0	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	2-Methylphenol	5.0	U
108-60-1	2,2´-Oxybis(1-chloropropane)	5.0	U
98-86-2	Acetophenone	5.0	U
106-44-5	4-Methylphenol	5.0	U
621-64-7	N-Nitroso-di-n-propylamine	5.0	U
67-72-1	Hexachloroethane	5.0	U
98-95-3	Nitrobenzene	5.0	U
78-59-1	Isophorone	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
111-91-1	Bis(2-chloroethoxy)methane	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
91-20-3	Naphthalene	5.0	U
106-47-8	4-Chloroaniline	5.0	U
87-68-3	Hexachlorobutadiene	5.0	U
105-60-2	Caprolactam	5.0	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
91-57-6	2-Methylnaphthalene	5.0	U
77-47-4	Hexachlorocyclopentadiene	5.0	U
88-06-2	2,4,6-Trichlorophenol	5.0	U
95-95-4	2,4,5-Trichlorophenol	5.0	U
92-52-4	1,1´-Biphenyl	5.0	U
91-58-7	2-Chloronaphthalene	5.0	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethylphthalate	5.0	U
606-20-2	2,6-Dinitrotoluene	5.0	U
208-96-8	Acenaphthylene	5.0	U
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	5.0	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30X2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-04A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S4E8651.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/10/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
51-28-5	2,4-Dinitrophenol	10	U
100-02-7	4-Nitrophenol	10	U
132-64-9	Dibenzofuran	5.0	U
121-14-2	2,4-Dinitrotoluene	5.0	U
84-66-2	Diethylphthalate	5.0	U
86-73-7	Fluorene	5.0	U
7005-72-3	4-Chlorophenyl-phenylether	5.0	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	10	U
86-30-6	N-Nitrosodiphenylamine [1]	5.0	U
95-94-3	1,2,4,5-Tetrachlorobenzene	5.0	U
101-55-3	4-Bromophenyl-phenylether	5.0	U
118-74-1	Hexachlorobenzene	5.0	U
1912-24-9	Atrazine	5.0	U
87-86-5	Pentachlorophenol	10	U
85-01-8	Phenanthrene	5.0	U
120-12-7	Anthracene	5.0	U
86-74-8	Carbazole	5.0	U
84-74-2	Di-n-butylphthalate	1.1	J
206-44-0	Fluoranthene	5.0	U
129-00-0	Pyrene	5.0	U
85-68-7	Butylbenzylphthalate	5.0	U
91-94-1	3,3´-Dichlorobenzidine	5.0	U
56-55-3	Benzo(a)anthracene	5.0	U
218-01-9	Chrysene	5.0	U
117-81-7	Bis(2-ethylhexyl)phthalate	11	
117-84-0	Di-n-octylphthalate	5.0	U
205-99-2	Benzo(b)fluoranthene	5.0	U
207-08-9	Benzo(k)fluoranthene	5.0	U
50-32-8	Benzo(a)pyrene	5.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	U
53-70-3	Dibenzo(a,h)anthracene	5.0	U
191-24-2	Benzo(g,h,i)perylene	5.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	5.0	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30X2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-04A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S4E8651.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/10/2011

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	2.678	7.9	J
02		Unknown-02	2.885	8.3	J
03		Unknown-03	3.009	9.5	J
04		Unknown-04	3.144	4.1	J
05		Unknown-05	3.268	26	J
06		Unknown-06	3.330	2.7	J
07	527-84-4	Benzene, 1-methyl-2-(1-methy	3.413	3.8	NJ
08		Unknown-07	3.465	17	J
09		Unknown-08	3.506	4.5	J
10		Unknown-09	3.548	8.9	J
11	30434-65-2	2-Cyclopenten-1-one, 3,4,4-t	3.599	51	NJ
12		Unknown-10	3.713	4.4	J
13		Unknown-11	3.775	27	J
14		Unknown-12	3.827	180	J
15		Unknown-13	3.868	15	J
16		Unknown-14	3.941	3.9	J
17		Unknown-15	4.127	130	J
18	21368-68-3	Bicyclo[2.2.1]heptan-2-one,	4.200	200	NJ
19		Unknown-16	4.251	30	J
20		Unknown-17	4.365	21	J
21		Unknown-18	4.603	15	J
22		Unknown-19	4.717	7.4	J
23		Unknown-20	4.810	10	J
24		Unknown-21	4.872	140	J
25		Unknown-22	4.986	170	J
26		Unknown-23	5.079	30	J
27		Unknown-24	5.286	14	J
28		Unknown-25	5.307	34	J
29		Unknown-26	5.400	37	J
30		Unknown-27	5.535	12	J
	E96679[2]	Total Alkanes	N/A		

[2]EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30X4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-01A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5231.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/29/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/03/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/04/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
100-52-7	Benzaldehyde	5.0	U
108-95-2	Phenol	5.0	U
111-44-4	Bis(2-chloroethyl)ether	5.0	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	2-Methylphenol	5.0	U
108-60-1	2,2´-Oxybis(1-chloropropane)	5.0	U
98-86-2	Acetophenone	5.0	U
106-44-5	4-Methylphenol	5.0	U
621-64-7	N-Nitroso-di-n-propylamine	5.0	U
67-72-1	Hexachloroethane	5.0	U
98-95-3	Nitrobenzene	5.0	U
78-59-1	Isophorone	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
111-91-1	Bis(2-chloroethoxy)methane	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
91-20-3	Naphthalene	5.0	U
106-47-8	4-Chloroaniline	5.0	U
87-68-3	Hexachlorobutadiene	5.0	U
105-60-2	Caprolactam	12	
59-50-7	4-Chloro-3-methylphenol	5.0	U
91-57-6	2-Methylnaphthalene	5.0	U
77-47-4	Hexachlorocyclopentadiene	5.0	U
88-06-2	2,4,6-Trichlorophenol	5.0	U
95-95-4	2,4,5-Trichlorophenol	5.0	U
92-52-4	1,1´-Biphenyl	5.0	U
91-58-7	2-Chloronaphthalene	5.0	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethylphthalate	5.0	U
606-20-2	2,6-Dinitrotoluene	5.0	U
208-96-8	Acenaphthylene	5.0	U
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	5.0	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30X4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-01A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5231.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/29/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/03/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/04/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
51-28-5	2,4-Dinitrophenol	10	U
100-02-7	4-Nitrophenol	10	U
132-64-9	Dibenzofuran	5.0	U
121-14-2	2,4-Dinitrotoluene	5.0	U
84-66-2	Diethylphthalate	5.0	U
86-73-7	Fluorene	5.0	U
7005-72-3	4-Chlorophenyl-phenylether	5.0	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	10	U
86-30-6	N-Nitrosodiphenylamine [1]	5.0	U
95-94-3	1,2,4,5-Tetrachlorobenzene	5.0	U
101-55-3	4-Bromophenyl-phenylether	5.0	U
118-74-1	Hexachlorobenzene	5.0	U
1912-24-9	Atrazine	5.0	U
87-86-5	Pentachlorophenol	10	U
85-01-8	Phenanthrene	5.0	U
120-12-7	Anthracene	5.0	U
86-74-8	Carbazole	5.0	U
84-74-2	Di-n-butylphthalate	5.0	U
206-44-0	Fluoranthene	5.0	U
129-00-0	Pyrene	5.0	U
85-68-7	Butylbenzylphthalate	5.0	U
91-94-1	3,3´-Dichlorobenzidine	5.0	U
56-55-3	Benzo(a)anthracene	5.0	U
218-01-9	Chrysene	5.0	U
117-81-7	Bis(2-ethylhexyl)phthalate	5.0	U
117-84-0	Di-n-octylphthalate	5.0	U
205-99-2	Benzo(b)fluoranthene	5.0	U
207-08-9	Benzo(k)fluoranthene	5.0	U
50-32-8	Benzo(a)pyrene	5.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	U
53-70-3	Dibenzo(a,h)anthracene	5.0	U
191-24-2	Benzo(g,h,i)perylene	5.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	5.0	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30X4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-01A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5231.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/29/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/03/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/04/2011

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	3.005	2.3	J
02	98-82-8	Benzene, (1-methylethyl)-	3.155	3.9	NJ
03		Unknown-02	3.380	7.6	J
04	622-96-8	Benzene, 1-ethyl-4-methyl-	3.434	20	NJ
05	108-67-8	Benzene, 1,3,5-trimethyl-	3.670	24	NJ
06	526-73-8	Benzene, 1,2,3-trimethyl-	3.863	8.1	NJ
07		Unknown-03	3.938	2.8	J
08		Unknown-04	4.045	3.7	J
09		Unknown-05	4.088	7.3	J
10		Unknown-06	4.206	2.4	J
11	126-21-6	L-Fenchone	4.313	41	NJ
12		Unknown-07	4.345	4.2	J
13		Unknown-08	4.410	2.7	J
14		Unknown-09	4.485	4.1	J
15		Unknown-10	4.613	30	J
16	464-48-2	Bicyclo[2.2.1]heptan-2-one,	4.667	26	NJ
17		Unknown-11	4.721	12	J
18		Unknown-12	5.010	6.1	J
19		Unknown-13	5.396	4.4	J
20		Unknown-14	5.450	4.6	J
21		Unknown-15	5.686	15	J
22		Unknown-16	5.954	13	J
23		Unknown-17	6.533	8.0	J
24		Unknown-18	6.565	27	J
25		Unknown-19	6.897	9.7	J
26		Unknown-20	7.090	8.7	J
27		Unknown-21	9.664	49	J
	E96679[2]	Total Alkanes	N/A		

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30X6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-06A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S4E8652.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/11/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
100-52-7	Benzaldehyde	5.0	U
108-95-2	Phenol	5.0	U
111-44-4	Bis(2-chloroethyl)ether	5.0	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	2-Methylphenol	5.0	U
108-60-1	2,2´-Oxybis(1-chloropropane)	5.0	U
98-86-2	Acetophenone	5.0	U
106-44-5	4-Methylphenol	5.0	U
621-64-7	N-Nitroso-di-n-propylamine	5.0	U
67-72-1	Hexachloroethane	5.0	U
98-95-3	Nitrobenzene	5.0	U
78-59-1	Isophorone	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
111-91-1	Bis(2-chloroethoxy)methane	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
91-20-3	Naphthalene	5.0	U
106-47-8	4-Chloroaniline	5.0	U
87-68-3	Hexachlorobutadiene	5.0	U
105-60-2	Caprolactam	5.0	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
91-57-6	2-Methylnaphthalene	5.0	U
77-47-4	Hexachlorocyclopentadiene	5.0	U
88-06-2	2,4,6-Trichlorophenol	5.0	U
95-95-4	2,4,5-Trichlorophenol	5.0	U
92-52-4	1,1´-Biphenyl	5.0	U
91-58-7	2-Chloronaphthalene	5.0	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethylphthalate	5.0	U
606-20-2	2,6-Dinitrotoluene	5.0	U
208-96-8	Acenaphthylene	5.0	U
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	5.0	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30X6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-06A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S4E8652.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/11/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
51-28-5	2,4-Dinitrophenol	10	U
100-02-7	4-Nitrophenol	10	U
132-64-9	Dibenzofuran	5.0	U
121-14-2	2,4-Dinitrotoluene	5.0	U
84-66-2	Diethylphthalate	1.2	J
86-73-7	Fluorene	5.0	U
7005-72-3	4-Chlorophenyl-phenylether	5.0	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	10	U
86-30-6	N-Nitrosodiphenylamine (1)	5.0	U
95-94-3	1,2,4,5-Tetrachlorobenzene	5.0	U
101-55-3	4-Bromophenyl-phenylether	5.0	U
118-74-1	Hexachlorobenzene	5.0	U
1912-24-9	Atrazine	5.0	U
87-86-5	Pentachlorophenol	10	U
85-01-8	Phenanthrene	5.0	U
120-12-7	Anthracene	5.0	U
86-74-8	Carbazole	5.0	U
84-74-2	Di-n-butylphthalate	1.2	J
206-44-0	Fluoranthene	5.0	U
129-00-0	Pyrene	5.0	U
85-68-7	Butylbenzylphthalate	5.0	U
91-94-1	3,3´-Dichlorobenzidine	5.0	U
56-55-3	Benzo(a)anthracene	5.0	U
218-01-9	Chrysene	5.0	U
117-81-7	Bis(2-ethylhexyl)phthalate	1.0	J
117-84-0	Di-n-octylphthalate	5.0	U
205-99-2	Benzo(b)fluoranthene	5.0	U
207-08-9	Benzo(k)fluoranthene	5.0	U
50-32-8	Benzo(a)pyrene	5.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	U
53-70-3	Dibenzo(a,h)anthracene	5.0	U
191-24-2	Benzo(g,h,i)perylene	5.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	5.0	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30X6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-06A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S4E8652.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/11/2011

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	2.885	3.3	J
02	1000162-25-4	Cyclopentene, 3-isopropenyl-	3.020	8.5	NJ
03		Unknown-02	3.268	11	J
04		Unknown-03	3.330	2.7	J
05		Unknown-04	3.475	2.6	J
06		Unknown-05	3.548	2.2	J
07		Unknown-06	3.775	10	J
08	76-22-2	Camphor	4.200	40	NJ
09		Unknown-07	4.252	8.9	J
10		Unknown-08	4.883	59	J
11		Unknown-09	4.976	40	J
12		Unknown-10	5.069	5.1	J
13		Unknown-11	5.297	18	J
	E96679[2]	Total Alkanes	N/A		

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30X7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-07A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S4E8666.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/11/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
100-52-7	Benzaldehyde	5.0	U
108-95-2	Phenol	5.0	U
111-44-4	Bis(2-chloroethyl)ether	5.0	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	2-Methylphenol	5.0	U
108-60-1	2,2´-Oxybis(1-chloropropane)	5.0	U
98-86-2	Acetophenone	5.0	U
106-44-5	4-Methylphenol	5.0	U
621-64-7	N-Nitroso-di-n-propylamine	5.0	U
67-72-1	Hexachloroethane	5.0	U
98-95-3	Nitrobenzene	5.0	U
78-59-1	Isophorone	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
111-91-1	Bis(2-chloroethoxy)methane	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
91-20-3	Naphthalene	5.0	U
106-47-8	4-Chloroaniline	5.0	U
87-68-3	Hexachlorobutadiene	5.0	U
105-60-2	Caprolactam	5.0	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
91-57-6	2-Methylnaphthalene	5.0	U
77-47-4	Hexachlorocyclopentadiene	5.0	U
88-06-2	2,4,6-Trichlorophenol	5.0	U
95-95-4	2,4,5-Trichlorophenol	5.0	U
92-52-4	1,1´-Biphenyl	5.0	U
91-58-7	2-Chloronaphthalene	5.0	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethylphthalate	5.0	U
606-20-2	2,6-Dinitrotoluene	5.0	U
208-96-8	Acenaphthylene	5.0	U
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	5.0	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30X7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-07A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S4E8666.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/11/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
51-28-5	2,4-Dinitrophenol	10	U
100-02-7	4-Nitrophenol	10	U
132-64-9	Dibenzofuran	5.0	U
121-14-2	2,4-Dinitrotoluene	5.0	U
84-66-2	Diethylphthalate	1.2	J
86-73-7	Fluorene	5.0	U
7005-72-3	4-Chlorophenyl-phenylether	5.0	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	10	U
86-30-6	N-Nitrosodiphenylamine (1)	5.0	U
95-94-3	1,2,4,5-Tetrachlorobenzene	5.0	U
101-55-3	4-Bromophenyl-phenylether	5.0	U
118-74-1	Hexachlorobenzene	5.0	U
1912-24-9	Atrazine	5.0	U
87-86-5	Pentachlorophenol	10	U
85-01-8	Phenanthrene	5.0	U
120-12-7	Anthracene	5.0	U
86-74-8	Carbazole	5.0	U
84-74-2	Di-n-butylphthalate	1.0	J
206-44-0	Fluoranthene	5.0	U
129-00-0	Pyrene	5.0	U
85-68-7	Butylbenzylphthalate	5.0	U
91-94-1	3,3´-Dichlorobenzidine	5.0	U
56-55-3	Benzo(a)anthracene	5.0	U
218-01-9	Chrysene	5.0	U
117-81-7	Bis(2-ethylhexyl)phthalate	1.3	J
117-84-0	Di-n-octylphthalate	5.0	U
205-99-2	Benzo(b)fluoranthene	5.0	U
207-08-9	Benzo(k)fluoranthene	5.0	U
50-32-8	Benzo(a)pyrene	5.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	U
53-70-3	Dibenzo(a,h)anthracene	5.0	U
191-24-2	Benzo(g,h,i)perylene	5.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	5.0	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30X7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-07A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S4E8666.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/11/2011

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	2.813	5.5	J
02		Unknown-02	3.010	3.1	J
03		Unknown-03	3.465	4.0	J
04		Unknown-04	3.858	3.4	J
05		Unknown-05	4.334	4.5	J
06		Unknown-06	4.676	2.2	J
07		Unknown-07	9.696	21	J
	E96679[2]	Total Alkanes	N/A		

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30X9

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-08A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S4E8654.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/11/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
100-52-7	Benzaldehyde	5.0	U
108-95-2	Phenol	5.0	U
111-44-4	Bis(2-chloroethyl)ether	5.0	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	2-Methylphenol	5.0	U
108-60-1	2,2´-Oxybis(1-chloropropane)	5.0	U
98-86-2	Acetophenone	5.0	U
106-44-5	4-Methylphenol	5.0	U
621-64-7	N-Nitroso-di-n-propylamine	5.0	U
67-72-1	Hexachloroethane	5.0	U
98-95-3	Nitrobenzene	5.0	U
78-59-1	Isophorone	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
111-91-1	Bis(2-chloroethoxy)methane	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
91-20-3	Naphthalene	5.0	U
106-47-8	4-Chloroaniline	5.0	U
87-68-3	Hexachlorobutadiene	5.0	U
105-60-2	Caprolactam	5.0	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
91-57-6	2-Methylnaphthalene	5.0	U
77-47-4	Hexachlorocyclopentadiene	5.0	U
88-06-2	2,4,6-Trichlorophenol	5.0	U
95-95-4	2,4,5-Trichlorophenol	5.0	U
92-52-4	1,1´-Biphenyl	5.0	U
91-58-7	2-Chloronaphthalene	5.0	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethylphthalate	5.0	U
606-20-2	2,6-Dinitrotoluene	5.0	U
208-96-8	Acenaphthylene	5.0	U
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	5.0	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30X9

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-08A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S4E8654.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/11/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
51-28-5	2,4-Dinitrophenol	10	U
100-02-7	4-Nitrophenol	10	U
132-64-9	Dibenzofuran	5.0	U
121-14-2	2,4-Dinitrotoluene	5.0	U
84-66-2	Diethylphthalate	1.3	J
86-73-7	Fluorene	5.0	U
7005-72-3	4-Chlorophenyl-phenylether	5.0	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	10	U
86-30-6	N-Nitrosodiphenylamine (1)	5.0	U
95-94-3	1,2,4,5-Tetrachlorobenzene	5.0	U
101-55-3	4-Bromophenyl-phenylether	5.0	U
118-74-1	Hexachlorobenzene	5.0	U
1912-24-9	Atrazine	5.0	U
87-86-5	Pentachlorophenol	10	U
85-01-8	Phenanthrene	5.0	U
120-12-7	Anthracene	5.0	U
86-74-8	Carbazole	5.0	U
84-74-2	Di-n-butylphthalate	5.0	U
206-44-0	Fluoranthene	5.0	U
129-00-0	Pyrene	5.0	U
85-68-7	Butylbenzylphthalate	5.0	U
91-94-1	3,3´-Dichlorobenzidine	5.0	U
56-55-3	Benzo(a)anthracene	5.0	U
218-01-9	Chrysene	5.0	U
117-81-7	Bis(2-ethylhexyl)phthalate	1.4	J
117-84-0	Di-n-octylphthalate	5.0	U
205-99-2	Benzo(b)fluoranthene	5.0	U
207-08-9	Benzo(k)fluoranthene	5.0	U
50-32-8	Benzo(a)pyrene	5.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	U
53-70-3	Dibenzo(a,h)anthracene	5.0	U
191-24-2	Benzo(g,h,i)perylene	5.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	5.0	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: H30X9

Lab Name: MITKEM LABORATORIES | Contract: EP-W-11-033

Lab Code: MITKEM | Case No.: 41926 | Mod. Ref No.: | SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER | Lab Sample ID: K2213-08A

Sample wt/vol: 1000 (g/mL) ML | Lab File ID: S4E8654.D

Level: (TRACE or LOW/MED) LOW | Extraction: (Type) CONT

% Moisture: | Decanted: (Y/N) | Date Received: 11/03/2011

Concentrated Extract Volume: 1000 (uL) | Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) | GPC Factor: 1.00 | Date Analyzed: 11/11/2011

GPC Cleanup: (Y/N) N | pH: | Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	2.885	2.1	J
02		Unknown-02	3.020	2.3	J
03		Unknown-03	3.268	2.7	J
04		Unknown-04	3.330	2.4	J
05		Unknown-05	3.413	2.2	J
06		Unknown-06	3.475	4.9	J
07		Unknown-07	3.775	5.7	J
08	54458-61-6	2-Cyclopenten-1-one, 2,3,4,5	3.869	5.0	NJ
09		Unknown-08	4.334	4.8	J
10		Unknown-09	4.541	2.7	J
11		Unknown-10	4.676	2.1	J
12		Unknown-11	4.904	11	J
	E96679[2]	Total Alkanes	N/A		

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Y0

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-09A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S4E8655.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/11/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
100-52-7	Benzaldehyde	5.0	U
108-95-2	Phenol	5.0	U
111-44-4	Bis(2-chloroethyl)ether	5.0	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	2-Methylphenol	5.0	U
108-60-1	2,2´-Oxybis(1-chloropropane)	5.0	U
98-86-2	Acetophenone	5.0	U
106-44-5	4-Methylphenol	5.0	U
621-64-7	N-Nitroso-di-n-propylamine	5.0	U
67-72-1	Hexachloroethane	5.0	U
98-95-3	Nitrobenzene	5.0	U
78-59-1	Isophorone	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
111-91-1	Bis(2-chloroethoxy)methane	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
91-20-3	Naphthalene	5.0	U
106-47-8	4-Chloroaniline	5.0	U
87-68-3	Hexachlorobutadiene	5.0	U
105-60-2	Caprolactam	5.0	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
91-57-6	2-Methylnaphthalene	5.0	U
77-47-4	Hexachlorocyclopentadiene	5.0	U
88-06-2	2,4,6-Trichlorophenol	5.0	U
95-95-4	2,4,5-Trichlorophenol	5.0	U
92-52-4	1,1´-Biphenyl	5.0	U
91-58-7	2-Chloronaphthalene	5.0	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethylphthalate	5.0	U
606-20-2	2,6-Dinitrotoluene	5.0	U
208-96-8	Acenaphthylene	5.0	U
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	5.0	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Y0

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-09A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S4E8655.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/11/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
51-28-5	2,4-Dinitrophenol	10	U
100-02-7	4-Nitrophenol	10	U
132-64-9	Dibenzofuran	5.0	U
121-14-2	2,4-Dinitrotoluene	5.0	U
84-66-2	Diethylphthalate	1.1	J
86-73-7	Fluorene	5.0	U
7005-72-3	4-Chlorophenyl-phenylether	5.0	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	10	U
86-30-6	N-Nitrosodiphenylamine (1)	5.0	U
95-94-3	1,2,4,5-Tetrachlorobenzene	5.0	U
101-55-3	4-Bromophenyl-phenylether	5.0	U
118-74-1	Hexachlorobenzene	5.0	U
1912-24-9	Atrazine	5.0	U
87-86-5	Pentachlorophenol	10	U
85-01-8	Phenanthrene	5.0	U
120-12-7	Anthracene	5.0	U
86-74-8	Carbazole	5.0	U
84-74-2	Di-n-butylphthalate	5.0	U
206-44-0	Fluoranthene	5.0	U
129-00-0	Pyrene	5.0	U
85-68-7	Butylbenzylphthalate	5.0	U
91-94-1	3,3´-Dichlorobenzidine	5.0	U
56-55-3	Benzo(a)anthracene	5.0	U
218-01-9	Chrysene	5.0	U
117-81-7	Bis(2-ethylhexyl)phthalate	1.0	J
117-84-0	Di-n-octylphthalate	5.0	U
205-99-2	Benzo(b)fluoranthene	5.0	U
207-08-9	Benzo(k)fluoranthene	5.0	U
50-32-8	Benzo(a)pyrene	5.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	U
53-70-3	Dibenzo(a,h)anthracene	5.0	U
191-24-2	Benzo(g,h,i)perylene	5.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	5.0	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30Y0

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-09A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S4E8655.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/11/2011

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	2.885	2.7	J
02		Unknown-02	3.020	3.0	J
03	54458-61-6	2-Cyclopenten-1-one, 2,3,4,5	3.869	7.0	NJ
04		Unknown-03	4.345	4.0	J
05		Unknown-04	4.676	2.3	J
06		Unknown-05	8.733	21	J
07		Unknown-06	9.696	13	J
	E96679[2]	Total Alkanes	N/A		

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Y1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-10A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S4E8656.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/11/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
100-52-7	Benzaldehyde	5.0	U
108-95-2	Phenol	5.0	U
111-44-4	Bis(2-chloroethyl)ether	5.0	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	2-Methylphenol	5.0	U
108-60-1	2,2´-Oxybis(1-chloropropane)	5.0	U
98-86-2	Acetophenone	5.0	U
106-44-5	4-Methylphenol	5.0	U
621-64-7	N-Nitroso-di-n-propylamine	5.0	U
67-72-1	Hexachloroethane	5.0	U
98-95-3	Nitrobenzene	5.0	U
78-59-1	Isophorone	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
111-91-1	Bis(2-chloroethoxy)methane	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
91-20-3	Naphthalene	5.0	U
106-47-8	4-Chloroaniline	5.0	U
87-68-3	Hexachlorobutadiene	5.0	U
105-60-2	Caprolactam	5.0	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
91-57-6	2-Methylnaphthalene	5.0	U
77-47-4	Hexachlorocyclopentadiene	5.0	U
88-06-2	2,4,6-Trichlorophenol	5.0	U
95-95-4	2,4,5-Trichlorophenol	5.0	U
92-52-4	1,1´-Biphenyl	5.0	U
91-58-7	2-Chloronaphthalene	5.0	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethylphthalate	5.0	U
606-20-2	2,6-Dinitrotoluene	5.0	U
208-96-8	Acenaphthylene	5.0	U
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	5.0	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Y1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-10A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S4E8656.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/11/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
51-28-5	2,4-Dinitrophenol	10	U
100-02-7	4-Nitrophenol	10	U
132-64-9	Dibenzofuran	5.0	U
121-14-2	2,4-Dinitrotoluene	5.0	U
84-66-2	Diethylphthalate	5.0	U
86-73-7	Fluorene	5.0	U
7005-72-3	4-Chlorophenyl-phenylether	5.0	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	10	U
86-30-6	N-Nitrosodiphenylamine [1]	5.0	U
95-94-3	1,2,4,5-Tetrachlorobenzene	5.0	U
101-55-3	4-Bromophenyl-phenylether	5.0	U
118-74-1	Hexachlorobenzene	5.0	U
1912-24-9	Atrazine	5.0	U
87-86-5	Pentachlorophenol	10	U
85-01-8	Phenanthrene	5.0	U
120-12-7	Anthracene	5.0	U
86-74-8	Carbazole	5.0	U
84-74-2	Di-n-butylphthalate	5.0	U
206-44-0	Fluoranthene	5.0	U
129-00-0	Pyrene	5.0	U
85-68-7	Butylbenzylphthalate	5.0	U
91-94-1	3,3´-Dichlorobenzidine	5.0	U
56-55-3	Benzo(a)anthracene	5.0	U
218-01-9	Chrysene	5.0	U
117-81-7	Bis(2-ethylhexyl)phthalate	5.0	U
117-84-0	Di-n-octylphthalate	5.0	U
205-99-2	Benzo(b)fluoranthene	5.0	U
207-08-9	Benzo(k)fluoranthene	5.0	U
50-32-8	Benzo(a)pyrene	5.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	U
53-70-3	Dibenzo(a,h)anthracene	5.0	U
191-24-2	Benzo(g,h,i)perylene	5.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	5.0	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30Y1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-10A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S4E8656.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/11/2011

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	3.268	3.2	J
02		Unknown-02	3.931	2.6	J
03		Unknown-03	4.334	4.6	J
04		Unknown-04	4.386	3.3	J
05		Unknown-05	5.307	4.6	J
06		Unknown-06	6.187	25	J
07		Unknown-07	9.696	12	J
	E96679[2]	Total Alkanes	N/A		

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Y7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-02A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5232.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/29/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/03/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/04/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
100-52-7	Benzaldehyde	5.0	U
108-95-2	Phenol	5.0	U
111-44-4	Bis(2-chloroethyl)ether	5.0	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	2-Methylphenol	5.0	U
108-60-1	2,2´-Oxybis(1-chloropropane)	5.0	U
98-86-2	Acetophenone	5.0	U
106-44-5	4-Methylphenol	5.0	U
621-64-7	N-Nitroso-di-n-propylamine	5.0	U
67-72-1	Hexachloroethane	5.0	U
98-95-3	Nitrobenzene	5.0	U
78-59-1	Isophorone	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
111-91-1	Bis(2-chloroethoxy)methane	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
91-20-3	Naphthalene	5.0	U
106-47-8	4-Chloroaniline	5.0	U
87-68-3	Hexachlorobutadiene	5.0	U
105-60-2	Caprolactam	5.0	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
91-57-6	2-Methylnaphthalene	5.0	U
77-47-4	Hexachlorocyclopentadiene	5.0	U
88-06-2	2,4,6-Trichlorophenol	5.0	U
95-95-4	2,4,5-Trichlorophenol	5.0	U
92-52-4	1,1´-Biphenyl	5.0	U
91-58-7	2-Chloronaphthalene	5.0	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethylphthalate	5.0	U
606-20-2	2,6-Dinitrotoluene	5.0	U
208-96-8	Acenaphthylene	5.0	U
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	5.0	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Y7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-02A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5232.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/29/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/03/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/04/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
51-28-5	2,4-Dinitrophenol	10	U
100-02-7	4-Nitrophenol	10	U
132-64-9	Dibenzofuran	5.0	U
121-14-2	2,4-Dinitrotoluene	5.0	U
84-66-2	Diethylphthalate	5.0	U
86-73-7	Fluorene	5.0	U
7005-72-3	4-Chlorophenyl-phenylether	5.0	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	10	U
86-30-6	N-Nitrosodiphenylamine [1]	5.0	U
95-94-3	1,2,4,5-Tetrachlorobenzene	5.0	U
101-55-3	4-Bromophenyl-phenylether	5.0	U
118-74-1	Hexachlorobenzene	5.0	U
1912-24-9	Atrazine	5.0	U
87-86-5	Pentachlorophenol	10	U
85-01-8	Phenanthrene	5.0	U
120-12-7	Anthracene	5.0	U
86-74-8	Carbazole	5.0	U
84-74-2	Di-n-butylphthalate	5.0	U
206-44-0	Fluoranthene	5.0	U
129-00-0	Pyrene	5.0	U
85-68-7	Butylbenzylphthalate	5.0	U
91-94-1	3,3´-Dichlorobenzidine	5.0	U
56-55-3	Benzo(a)anthracene	5.0	U
218-01-9	Chrysene	5.0	U
117-81-7	Bis(2-ethylhexyl)phthalate	5.0	U
117-84-0	Di-n-octylphthalate	5.0	U
205-99-2	Benzo(b)fluoranthene	5.0	U
207-08-9	Benzo(k)fluoranthene	5.0	U
50-32-8	Benzo(a)pyrene	5.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	U
53-70-3	Dibenzo(a,h)anthracene	5.0	U
191-24-2	Benzo(g,h,i)perylene	5.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	5.0	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30Y7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-02A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S2H5232.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 10/29/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/03/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/04/2011

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	3.670	2.8	J
02		Unknown-02	4.346	2.1	J
03		Unknown-03	4.485	2.1	J
04		Unknown-04	4.603	5.8	J
05		Unknown-05	5.118	3.8	J
06		Unknown-06	5.182	2.6	J
07		Unknown-07	5.322	4.4	J
08		Unknown-08	5.482	4.0	J
09		Unknown-09	5.675	8.8	J
10		Unknown-10	5.901	3.3	J
11		Unknown-11	8.153	21	J
	E96679[2]	Total Alkanes	N/A		

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Z2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-11A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S4E8657.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/11/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
100-52-7	Benzaldehyde	5.0	U
108-95-2	Phenol	5.0	U
111-44-4	Bis(2-chloroethyl)ether	5.0	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	2-Methylphenol	5.0	U
108-60-1	2,2´-Oxybis(1-chloropropane)	5.0	U
98-86-2	Acetophenone	5.0	U
106-44-5	4-Methylphenol	5.0	U
621-64-7	N-Nitroso-di-n-propylamine	5.0	U
67-72-1	Hexachloroethane	5.0	U
98-95-3	Nitrobenzene	5.0	U
78-59-1	Isophorone	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
111-91-1	Bis(2-chloroethoxy)methane	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
91-20-3	Naphthalene	5.0	U
106-47-8	4-Chloroaniline	5.0	U
87-68-3	Hexachlorobutadiene	5.0	U
105-60-2	Caprolactam	5.0	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
91-57-6	2-Methylnaphthalene	5.0	U
77-47-4	Hexachlorocyclopentadiene	5.0	U
88-06-2	2,4,6-Trichlorophenol	5.0	U
95-95-4	2,4,5-Trichlorophenol	5.0	U
92-52-4	1,1´-Biphenyl	5.0	U
91-58-7	2-Chloronaphthalene	5.0	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethylphthalate	5.0	U
606-20-2	2,6-Dinitrotoluene	5.0	U
208-96-8	Acenaphthylene	5.0	U
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	5.0	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Z2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-11A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S4E8657.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/11/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
51-28-5	2,4-Dinitrophenol	10	U
100-02-7	4-Nitrophenol	10	U
132-64-9	Dibenzofuran	5.0	U
121-14-2	2,4-Dinitrotoluene	5.0	U
84-66-2	Diethylphthalate	1.1	J
86-73-7	Fluorene	5.0	U
7005-72-3	4-Chlorophenyl-phenylether	5.0	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	10	U
86-30-6	N-Nitrosodiphenylamine (1)	5.0	U
95-94-3	1,2,4,5-Tetrachlorobenzene	5.0	U
101-55-3	4-Bromophenyl-phenylether	5.0	U
118-74-1	Hexachlorobenzene	5.0	U
1912-24-9	Atrazine	5.0	U
87-86-5	Pentachlorophenol	10	U
85-01-8	Phenanthrene	5.0	U
120-12-7	Anthracene	5.0	U
86-74-8	Carbazole	5.0	U
84-74-2	Di-n-butylphthalate	5.0	U
206-44-0	Fluoranthene	5.0	U
129-00-0	Pyrene	5.0	U
85-68-7	Butylbenzylphthalate	5.0	U
91-94-1	3,3´-Dichlorobenzidine	5.0	U
56-55-3	Benzo(a)anthracene	5.0	U
218-01-9	Chrysene	5.0	U
117-81-7	Bis(2-ethylhexyl)phthalate	5.0	U
117-84-0	Di-n-octylphthalate	5.0	U
205-99-2	Benzo(b)fluoranthene	5.0	U
207-08-9	Benzo(k)fluoranthene	5.0	U
50-32-8	Benzo(a)pyrene	5.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	U
53-70-3	Dibenzo(a,h)anthracene	5.0	U
191-24-2	Benzo(g,h,i)perylene	5.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	5.0	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30Z2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-11A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S4E8657.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/11/2011

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	4.334	3.6	J
02		Unknown-02	4.676	2.3	J
03		Unknown-03	4.914	8.1	J
04		Unknown-04	5.048	3.5	J
05		Unknown-05	7.460	3.5	J
06		Unknown-06	7.688	2.4	J
07		Unknown-07	9.685	3.5	J
08	301-02-0	9-Octadecenamide, (Z)-	10.958	10	NJ
	E96679€ [2]	Total Alkanes	N/A		

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Z3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-12A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S4E8660.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/11/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
100-52-7	Benzaldehyde	5.0	U
108-95-2	Phenol	5.0	U
111-44-4	Bis(2-chloroethyl)ether	5.0	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	2-Methylphenol	5.0	U
108-60-1	2,2´-Oxybis(1-chloropropane)	5.0	U
98-86-2	Acetophenone	5.0	U
106-44-5	4-Methylphenol	5.0	U
621-64-7	N-Nitroso-di-n-propylamine	5.0	U
67-72-1	Hexachloroethane	5.0	U
98-95-3	Nitrobenzene	5.0	U
78-59-1	Isophorone	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
111-91-1	Bis(2-chloroethoxy)methane	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
91-20-3	Naphthalene	5.0	U
106-47-8	4-Chloroaniline	5.0	U
87-68-3	Hexachlorobutadiene	5.0	U
105-60-2	Caprolactam	5.0	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
91-57-6	2-Methylnaphthalene	5.0	U
77-47-4	Hexachlorocyclopentadiene	5.0	U
88-06-2	2,4,6-Trichlorophenol	5.0	U
95-95-4	2,4,5-Trichlorophenol	5.0	U
92-52-4	1,1´-Biphenyl	5.0	U
91-58-7	2-Chloronaphthalene	5.0	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethylphthalate	5.0	U
606-20-2	2,6-Dinitrotoluene	5.0	U
208-96-8	Acenaphthylene	5.0	U
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	5.0	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Z3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-12A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S4E8660.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/11/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
51-28-5	2,4-Dinitrophenol	10	U
100-02-7	4-Nitrophenol	10	U
132-64-9	Dibenzofuran	5.0	U
121-14-2	2,4-Dinitrotoluene	5.0	U
84-66-2	Diethylphthalate	5.0	U
86-73-7	Fluorene	5.0	U
7005-72-3	4-Chlorophenyl-phenylether	5.0	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	10	U
86-30-6	N-Nitrosodiphenylamine [1]	5.0	U
95-94-3	1,2,4,5-Tetrachlorobenzene	5.0	U
101-55-3	4-Bromophenyl-phenylether	5.0	U
118-74-1	Hexachlorobenzene	5.0	U
1912-24-9	Atrazine	5.0	U
87-86-5	Pentachlorophenol	10	U
85-01-8	Phenanthrene	5.0	U
120-12-7	Anthracene	5.0	U
86-74-8	Carbazole	5.0	U
84-74-2	Di-n-butylphthalate	5.0	U
206-44-0	Fluoranthene	5.0	U
129-00-0	Pyrene	5.0	U
85-68-7	Butylbenzylphthalate	5.0	U
91-94-1	3,3´-Dichlorobenzidine	5.0	U
56-55-3	Benzo(a)anthracene	5.0	U
218-01-9	Chrysene	5.0	U
117-81-7	Bis(2-ethylhexyl)phthalate	5.0	U
117-84-0	Di-n-octylphthalate	5.0	U
205-99-2	Benzo(b)fluoranthene	5.0	U
207-08-9	Benzo(k)fluoranthene	5.0	U
50-32-8	Benzo(a)pyrene	5.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	U
53-70-3	Dibenzo(a,h)anthracene	5.0	U
191-24-2	Benzo(g,h,i)perylene	5.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	5.0	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30Z3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-12A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S4E8660.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/11/2011

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	4.334	3.5	J
02		Unknown-02	4.676	2.8	J
03		Unknown-03	4.914	5.4	J
04		Unknown-04	6.052	6.2	J
05		Unknown-05	7.460	2.5	J
06		Unknown-06	8.547	3.9	J
07		Unknown-07	8.588	5.0	J
08		Unknown-08	9.282	3.5	J
09	112-84-5	13-Docosenamide, (Z)-	10.958	7.5	BNJ
	E96679[2]	Total Alkanes	N/A		

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Z4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-13A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S4E8661.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/11/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
100-52-7	Benzaldehyde	5.0	U
108-95-2	Phenol	5.0	U
111-44-4	Bis(2-chloroethyl)ether	5.0	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	2-Methylphenol	5.0	U
108-60-1	2,2´-Oxybis(1-chloropropane)	5.0	U
98-86-2	Acetophenone	5.0	U
106-44-5	4-Methylphenol	5.0	U
621-64-7	N-Nitroso-di-n-propylamine	5.0	U
67-72-1	Hexachloroethane	5.0	U
98-95-3	Nitrobenzene	5.0	U
78-59-1	Isophorone	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
111-91-1	Bis(2-chloroethoxy)methane	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
91-20-3	Naphthalene	5.0	U
106-47-8	4-Chloroaniline	5.0	U
87-68-3	Hexachlorobutadiene	5.0	U
105-60-2	Caprolactam	5.0	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
91-57-6	2-Methylnaphthalene	5.0	U
77-47-4	Hexachlorocyclopentadiene	5.0	U
88-06-2	2,4,6-Trichlorophenol	5.0	U
95-95-4	2,4,5-Trichlorophenol	5.0	U
92-52-4	1,1´-Biphenyl	5.0	U
91-58-7	2-Chloronaphthalene	5.0	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethylphthalate	5.0	U
606-20-2	2,6-Dinitrotoluene	5.0	U
208-96-8	Acenaphthylene	5.0	U
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	5.0	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Z4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-13A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S4E8661.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/11/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
51-28-5	2,4-Dinitrophenol	10	U
100-02-7	4-Nitrophenol	10	U
132-64-9	Dibenzofuran	5.0	U
121-14-2	2,4-Dinitrotoluene	5.0	U
84-66-2	Diethylphthalate	1.1	J
86-73-7	Fluorene	5.0	U
7005-72-3	4-Chlorophenyl-phenylether	5.0	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	10	U
86-30-6	N-Nitrosodiphenylamine (1)	5.0	U
95-94-3	1,2,4,5-Tetrachlorobenzene	5.0	U
101-55-3	4-Bromophenyl-phenylether	5.0	U
118-74-1	Hexachlorobenzene	5.0	U
1912-24-9	Atrazine	5.0	U
87-86-5	Pentachlorophenol	10	U
85-01-8	Phenanthrene	5.0	U
120-12-7	Anthracene	5.0	U
86-74-8	Carbazole	5.0	U
84-74-2	Di-n-butylphthalate	5.0	U
206-44-0	Fluoranthene	5.0	U
129-00-0	Pyrene	5.0	U
85-68-7	Butylbenzylphthalate	5.0	U
91-94-1	3,3´-Dichlorobenzidine	5.0	U
56-55-3	Benzo(a)anthracene	5.0	U
218-01-9	Chrysene	5.0	U
117-81-7	Bis(2-ethylhexyl)phthalate	5.0	U
117-84-0	Di-n-octylphthalate	5.0	U
205-99-2	Benzo(b)fluoranthene	5.0	U
207-08-9	Benzo(k)fluoranthene	5.0	U
50-32-8	Benzo(a)pyrene	5.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	U
53-70-3	Dibenzo(a,h)anthracene	5.0	U
191-24-2	Benzo(g,h,i)perylene	5.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	5.0	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30Z4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-13A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S4E8661.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/11/2011

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	4.334	5.5	J
02		Unknown-02	4.676	3.2	J
03		Unknown-03	4.914	9.7	J
04		Unknown-04	7.460	4.2	J
05		Unknown-05	7.688	2.5	J
06		Unknown-06	8.226	2.1	J
07		Unknown-07	9.685	2.5	J
08		Unknown-08	10.958	10	J
	E96679€ [2]	Total Alkanes	N/A		

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Z5

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-14A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S4E8662.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/11/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
100-52-7	Benzaldehyde	5.0	U
108-95-2	Phenol	5.0	U
111-44-4	Bis(2-chloroethyl)ether	5.0	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	2-Methylphenol	5.0	U
108-60-1	2,2´-Oxybis(1-chloropropane)	5.0	U
98-86-2	Acetophenone	5.0	U
106-44-5	4-Methylphenol	5.0	U
621-64-7	N-Nitroso-di-n-propylamine	5.0	U
67-72-1	Hexachloroethane	5.0	U
98-95-3	Nitrobenzene	5.0	U
78-59-1	Isophorone	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
111-91-1	Bis(2-chloroethoxy)methane	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
91-20-3	Naphthalene	5.0	U
106-47-8	4-Chloroaniline	5.0	U
87-68-3	Hexachlorobutadiene	5.0	U
105-60-2	Caprolactam	5.0	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
91-57-6	2-Methylnaphthalene	5.0	U
77-47-4	Hexachlorocyclopentadiene	5.0	U
88-06-2	2,4,6-Trichlorophenol	5.0	U
95-95-4	2,4,5-Trichlorophenol	5.0	U
92-52-4	1,1´-Biphenyl	5.0	U
91-58-7	2-Chloronaphthalene	5.0	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethylphthalate	5.0	U
606-20-2	2,6-Dinitrotoluene	5.0	U
208-96-8	Acenaphthylene	5.0	U
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	5.0	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Z5

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-14A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S4E8662.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/11/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
51-28-5	2,4-Dinitrophenol	10	U
100-02-7	4-Nitrophenol	10	U
132-64-9	Dibenzofuran	5.0	U
121-14-2	2,4-Dinitrotoluene	5.0	U
84-66-2	Diethylphthalate	5.0	U
86-73-7	Fluorene	5.0	U
7005-72-3	4-Chlorophenyl-phenylether	5.0	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	10	U
86-30-6	N-Nitrosodiphenylamine [1]	5.0	U
95-94-3	1,2,4,5-Tetrachlorobenzene	5.0	U
101-55-3	4-Bromophenyl-phenylether	5.0	U
118-74-1	Hexachlorobenzene	5.0	U
1912-24-9	Atrazine	5.0	U
87-86-5	Pentachlorophenol	10	U
85-01-8	Phenanthrene	5.0	U
120-12-7	Anthracene	5.0	U
86-74-8	Carbazole	5.0	U
84-74-2	Di-n-butylphthalate	5.0	U
206-44-0	Fluoranthene	5.0	U
129-00-0	Pyrene	5.0	U
85-68-7	Butylbenzylphthalate	5.0	U
91-94-1	3,3´-Dichlorobenzidine	5.0	U
56-55-3	Benzo(a)anthracene	5.0	U
218-01-9	Chrysene	5.0	U
117-81-7	Bis(2-ethylhexyl)phthalate	5.0	U
117-84-0	Di-n-octylphthalate	5.0	U
205-99-2	Benzo(b)fluoranthene	5.0	U
207-08-9	Benzo(k)fluoranthene	5.0	U
50-32-8	Benzo(a)pyrene	5.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	U
53-70-3	Dibenzo(a,h)anthracene	5.0	U
191-24-2	Benzo(g,h,i)perylene	5.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	5.0	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30Z5

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-14A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S4E8662.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/11/2011

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	4.334	3.5	J
02		Unknown-02	4.676	3.3	J
03		Unknown-03	4.904	9.5	J
04		Unknown-04	5.048	4.1	J
05		Unknown-05	6.042	10	J
06		Unknown-06	7.688	2.5	J
07		Unknown-07	8.588	3.7	J
08		Unknown-08	10.958	11	J
	E96679€ [2]	Total Alkanes	N/A		

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Z7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-15A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S4E8663.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/11/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
100-52-7	Benzaldehyde	5.0	U
108-95-2	Phenol	5.0	U
111-44-4	Bis(2-chloroethyl)ether	5.0	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	2-Methylphenol	5.0	U
108-60-1	2,2´-Oxybis(1-chloropropane)	5.0	U
98-86-2	Acetophenone	5.0	U
106-44-5	4-Methylphenol	5.0	U
621-64-7	N-Nitroso-di-n-propylamine	5.0	U
67-72-1	Hexachloroethane	5.0	U
98-95-3	Nitrobenzene	5.0	U
78-59-1	Isophorone	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
111-91-1	Bis(2-chloroethoxy)methane	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
91-20-3	Naphthalene	5.0	U
106-47-8	4-Chloroaniline	5.0	U
87-68-3	Hexachlorobutadiene	5.0	U
105-60-2	Caprolactam	5.0	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
91-57-6	2-Methylnaphthalene	5.0	U
77-47-4	Hexachlorocyclopentadiene	5.0	U
88-06-2	2,4,6-Trichlorophenol	5.0	U
95-95-4	2,4,5-Trichlorophenol	5.0	U
92-52-4	1,1´-Biphenyl	5.0	U
91-58-7	2-Chloronaphthalene	5.0	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethylphthalate	5.0	U
606-20-2	2,6-Dinitrotoluene	5.0	U
208-96-8	Acenaphthylene	5.0	U
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	5.0	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Z7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-15A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S4E8663.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/11/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
51-28-5	2,4-Dinitrophenol	10	U
100-02-7	4-Nitrophenol	10	U
132-64-9	Dibenzofuran	5.0	U
121-14-2	2,4-Dinitrotoluene	5.0	U
84-66-2	Diethylphthalate	5.0	U
86-73-7	Fluorene	5.0	U
7005-72-3	4-Chlorophenyl-phenylether	5.0	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	10	U
86-30-6	N-Nitrosodiphenylamine (1)	5.0	U
95-94-3	1,2,4,5-Tetrachlorobenzene	5.0	U
101-55-3	4-Bromophenyl-phenylether	5.0	U
118-74-1	Hexachlorobenzene	5.0	U
1912-24-9	Atrazine	5.0	U
87-86-5	Pentachlorophenol	10	U
85-01-8	Phenanthrene	5.0	U
120-12-7	Anthracene	5.0	U
86-74-8	Carbazole	5.0	U
84-74-2	Di-n-butylphthalate	5.0	U
206-44-0	Fluoranthene	5.0	U
129-00-0	Pyrene	5.0	U
85-68-7	Butylbenzylphthalate	5.0	U
91-94-1	3,3´-Dichlorobenzidine	5.0	U
56-55-3	Benzo(a)anthracene	5.0	U
218-01-9	Chrysene	5.0	U
117-81-7	Bis(2-ethylhexyl)phthalate	2.0	J
117-84-0	Di-n-octylphthalate	5.0	U
205-99-2	Benzo(b)fluoranthene	5.0	U
207-08-9	Benzo(k)fluoranthene	5.0	U
50-32-8	Benzo(a)pyrene	5.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	U
53-70-3	Dibenzo(a,h)anthracene	5.0	U
191-24-2	Benzo(g,h,i)perylene	5.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	5.0	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30Z7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-15A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S4E8663.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/11/2011

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	3.020	2.3	J
02		Unknown-02	3.268	3.3	J
03		Unknown-03	3.475	3.9	J
04		Unknown-04	3.848	3.1	J
05		Unknown-05	4.334	4.5	J
06		Unknown-06	4.676	2.6	J
07		Unknown-07	4.883	9.5	J
08		Unknown-08	5.814	2.3	J
09		Unknown-09	8.733	20	J
	E96679[2]	Total Alkanes	N/A		

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Z8

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-16A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S4E8664.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/11/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
100-52-7	Benzaldehyde	5.0	U
108-95-2	Phenol	5.0	U
111-44-4	Bis(2-chloroethyl)ether	5.0	U
95-57-8	2-Chlorophenol	5.0	U
95-48-7	2-Methylphenol	5.0	U
108-60-1	2,2´-Oxybis(1-chloropropane)	5.0	U
98-86-2	Acetophenone	5.0	U
106-44-5	4-Methylphenol	5.0	U
621-64-7	N-Nitroso-di-n-propylamine	5.0	U
67-72-1	Hexachloroethane	5.0	U
98-95-3	Nitrobenzene	5.0	U
78-59-1	Isophorone	5.0	U
88-75-5	2-Nitrophenol	5.0	U
105-67-9	2,4-Dimethylphenol	5.0	U
111-91-1	Bis(2-chloroethoxy)methane	5.0	U
120-83-2	2,4-Dichlorophenol	5.0	U
91-20-3	Naphthalene	5.0	U
106-47-8	4-Chloroaniline	5.0	U
87-68-3	Hexachlorobutadiene	5.0	U
105-60-2	Caprolactam	5.0	U
59-50-7	4-Chloro-3-methylphenol	5.0	U
91-57-6	2-Methylnaphthalene	5.0	U
77-47-4	Hexachlorocyclopentadiene	5.0	U
88-06-2	2,4,6-Trichlorophenol	5.0	U
95-95-4	2,4,5-Trichlorophenol	5.0	U
92-52-4	1,1´-Biphenyl	5.0	U
91-58-7	2-Chloronaphthalene	5.0	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethylphthalate	5.0	U
606-20-2	2,6-Dinitrotoluene	5.0	U
208-96-8	Acenaphthylene	5.0	U
99-09-2	3-Nitroaniline	10	U
83-32-9	Acenaphthene	5.0	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Z8

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-16A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S4E8664.D

Level: (LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/11/2011

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
51-28-5	2,4-Dinitrophenol	10	U
100-02-7	4-Nitrophenol	10	U
132-64-9	Dibenzofuran	5.0	U
121-14-2	2,4-Dinitrotoluene	5.0	U
84-66-2	Diethylphthalate	1.1	J
86-73-7	Fluorene	5.0	U
7005-72-3	4-Chlorophenyl-phenylether	5.0	U
100-01-6	4-Nitroaniline	10	U
534-52-1	4,6-Dinitro-2-methylphenol	10	U
86-30-6	N-Nitrosodiphenylamine (1)	5.0	U
95-94-3	1,2,4,5-Tetrachlorobenzene	5.0	U
101-55-3	4-Bromophenyl-phenylether	5.0	U
118-74-1	Hexachlorobenzene	5.0	U
1912-24-9	Atrazine	5.0	U
87-86-5	Pentachlorophenol	10	U
85-01-8	Phenanthrene	5.0	U
120-12-7	Anthracene	5.0	U
86-74-8	Carbazole	5.0	U
84-74-2	Di-n-butylphthalate	1.0	J
206-44-0	Fluoranthene	5.0	U
129-00-0	Pyrene	5.0	U
85-68-7	Butylbenzylphthalate	5.0	U
91-94-1	3,3´-Dichlorobenzidine	5.0	U
56-55-3	Benzo(a)anthracene	5.0	U
218-01-9	Chrysene	5.0	U
117-81-7	Bis(2-ethylhexyl)phthalate	5.0	U
117-84-0	Di-n-octylphthalate	5.0	U
205-99-2	Benzo(b)fluoranthene	5.0	U
207-08-9	Benzo(k)fluoranthene	5.0	U
50-32-8	Benzo(a)pyrene	5.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	U
53-70-3	Dibenzo(a,h)anthracene	5.0	U
191-24-2	Benzo(g,h,i)perylene	5.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	5.0	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30Z8

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-16A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S4E8664.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) CONT

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Concentrated Extract Volume: 1000 (uL) Date Extracted: 11/08/2011

Injection Volume: 2.0 (uL) GPC Factor: 1.00 Date Analyzed: 11/11/2011

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	4.334	5.8	J
02		Unknown-02	4.676	3.0	J
03		Unknown-03	4.924	12	J
04		Unknown-04	5.059	5.1	J
05		Unknown-05	6.032	4.2	J
06		Unknown-06	7.688	2.6	J
07	112-84-5	13-Docosenamide, (Z)-	10.959	12	BNJ
	E96679[2]	Total Alkanes	N/A		

[2] EPA-designated Registry Number.

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30X4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-01A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2K7622F.D/E2K7622R.D

% Moisture: Decanted: (Y/N) Date Received: 10/29/2011

Extraction: (Type) SEPF Date Extracted: 11/02/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/09/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U
37324-23-5	Aroclor-1262	1.0	U
11100-14-4	Aroclor-1268	1.0	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30X4RX

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-01ARE

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E3I6766F.D/E3I6766R.D

% Moisture: Decanted: (Y/N) Date Received: 10/29/2011

Extraction: (Type) SEPF Date Extracted: 11/14/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/17/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U
37324-23-5	Aroclor-1262	1.0	U
11100-14-4	Aroclor-1268	1.0	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Y7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-02A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2K7623F.D/E2K7623R.D

% Moisture: Decanted: (Y/N) Date Received: 10/29/2011

Extraction: (Type) SEPF Date Extracted: 11/02/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/09/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U
37324-23-5	Aroclor-1262	1.0	U
11100-14-4	Aroclor-1268	1.0	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Y7RX

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-02ARE

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E3I6767F.D/E3I6767R.D

% Moisture: Decanted: (Y/N) Date Received: 10/29/2011

Extraction: (Type) SEPF Date Extracted: 11/14/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/17/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U
37324-23-5	Aroclor-1262	1.0	U
11100-14-4	Aroclor-1268	1.0	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30W9

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-03A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E3I6747F.D/E3I6747R.D

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Extraction: (Type) SEPF Date Extracted: 11/08/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/16/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U
37324-23-5	Aroclor-1262	1.0	U
11100-14-4	Aroclor-1268	1.0	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30X2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-04A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E3I6748F.D/E3I6748R.D

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Extraction: (Type) SEPF Date Extracted: 11/08/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/16/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U
37324-23-5	Aroclor-1262	1.0	U
11100-14-4	Aroclor-1268	1.0	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30X6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-06A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E3I6749F.D/E3I6749R.D

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Extraction: (Type) SEPF Date Extracted: 11/08/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/16/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U
37324-23-5	Aroclor-1262	1.0	U
11100-14-4	Aroclor-1268	1.0	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30X7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-07A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E3I6750F.D/E3I6750R.D

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Extraction: (Type) SEPF Date Extracted: 11/08/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/16/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U
37324-23-5	Aroclor-1262	1.0	U
11100-14-4	Aroclor-1268	1.0	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30X9

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-08A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E3I6792F.D/E3I6792R.D

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Extraction: (Type) SEPF Date Extracted: 11/08/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/17/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U
37324-23-5	Aroclor-1262	1.0	U
11100-14-4	Aroclor-1268	1.0	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Y0

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-09A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E3I6793F.D/E3I6793R.D

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Extraction: (Type) SEPF Date Extracted: 11/08/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/17/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U
37324-23-5	Aroclor-1262	1.0	U
11100-14-4	Aroclor-1268	1.0	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Y1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-10A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E3I6753F.D/E3I6753R.D

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Extraction: (Type) SEPF Date Extracted: 11/08/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/16/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U
37324-23-5	Aroclor-1262	1.0	U
11100-14-4	Aroclor-1268	1.0	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Z2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-11A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E3I6754F.D/E3I6754R.D

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Extraction: (Type) SEPF Date Extracted: 11/08/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/16/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U
37324-23-5	Aroclor-1262	1.0	U
11100-14-4	Aroclor-1268	1.0	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Z3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-12A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E3I6757F.D/E3I6757R.D

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Extraction: (Type) SEPF Date Extracted: 11/08/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/16/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U
37324-23-5	Aroclor-1262	1.0	U
11100-14-4	Aroclor-1268	1.0	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Z4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-13A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E3I6758F.D/E3I6758R.D

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Extraction: (Type) SEPF Date Extracted: 11/08/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/16/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U
37324-23-5	Aroclor-1262	1.0	U
11100-14-4	Aroclor-1268	1.0	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Z5

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-14A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E3I6759F.D/E3I6759R.D

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Extraction: (Type) SEPF Date Extracted: 11/08/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/16/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U
37324-23-5	Aroclor-1262	1.0	U
11100-14-4	Aroclor-1268	1.0	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Z7

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-15A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E3I6794F.D/E3I6794R.D

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Extraction: (Type) SEPF Date Extracted: 11/08/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/17/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U
37324-23-5	Aroclor-1262	1.0	U
11100-14-4	Aroclor-1268	1.0	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Z8

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30X4

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K2213-16A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E3I6761F.D/E3I6761R.D

% Moisture: Decanted: (Y/N) Date Received: 11/03/2011

Extraction: (Type) SEPF Date Extracted: 11/08/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/16/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/L	Q
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U
37324-23-5	Aroclor-1262	1.0	U
11100-14-4	Aroclor-1268	1.0	U

REGION VIII
DATA VALIDATION REPORT
ORGANICS

Case/TDD No.	Site Name		Operable Unit
41926 / 1109-07	Smurfit Stone Mill		
RPM/OSC Name			
Robert Parker			
Contractor Laboratory	**Contract No.**	**SDG No.**	**Laboratory DPO/Region**
Spectrum Analytical, Inc.	EP-W-11-033	H30Q0	

Review Assigned Date: February 9, 2012 Data Validator: Amy Ballow
Review Completion Date: February 22, 2012 Report Reviewer: Bill Fear

Sample ID	Matrix	Analysis
H30Q0	Soil	CLP - Volatile, Semivolatile, and Aroclor Analyses by SOM01.2
H30Q1		
H30Q2		
H30Q3		
H30Q4		
H30Q6		
H30Q8		
H30Q9		
H30R0		
H30R1		
H30S4		
H30S5		
H30S8		
H30S9		

Sample ID	Matrix	Analysis
H30T0	Soil	CLP - Volatile, Semivolatile, and Aroclor Analyses by SOM01.2
H30T1		
H30T2		
H30T3		
H30T4		
H30T5		

DATA QUALITY STATEMENT

( ) Data are ACCEPTABLE according to EPA Functional Guidelines with no qualifiers (flags) added by the reviewer.
( ) Data are UNACCEPTABLE according to EPA Functional Guidelines.
(X) Data are acceptable with QUALIFICATIONS noted in review.

PO Attention Required? Yes _____ No ___X__ If yes, list the items that require attention:

ORGANIC DATA VALIDATION REPORT

REVIEW NARRATIVE SUMMARY

This data package was reviewed according to the EPA document "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," June 2008.

Raw data were reviewed for completeness and transcription accuracy onto the summary forms. Approximately 10-20% of the results reported in each of the samples, calibrations, and QC analyses were recalculated and verified. If problems were identified during the recalculation of results, a more thorough calculation check was performed.

The data package, SDG No. H30Q0, consisted of 20 soil samples for CLP low/medium volatile organic analyses, CLP semivolatile organic, and Aroclor organic analyses by SOM01.2.

The following tables list data qualifiers added to the data. (Please see Data Qualifier Definitions, attached to the end of this report.)

Sample Number	Volatile Compound	Qualifier	Reason For Qualification	Review Section
All samples	1,4-Dioxane	R	Initial and continuing calibration RRFs less than 0.005	4
H30Q9	Vinyl chloride	UJ	DMC percent recovery below criteria, but above 10%	5
H30R0	Dichlorodifluoromethane Chloromethane Bromomethane Chloroethane Carbon disulfide			
H30Q8, H30R0	All volatile compounds	UJ	Percent moisture ≥ 70%	10

Sample Number	Semivolatile Compound	Qualifier	Reason For Qualification	Review Section
All samples	Pentachlorophenol	UJ	Initial calibration %RSDs > 20%	4
H30T4			Continuing calibration %Ds > 25%	
H30Q3	n-Nitroso-di-n-propylamine 4-Chloro-3-methylphenol			

Sample Number	Semivolatile Compound	Qualifier	Reason For Qualification	Review Section
H30T0	Caprolactam 1,1'-Biphenyl Dimethylphthalate Diethylphthalate Di-n-butylphthalate Butylbenzylphthalate Bis(2-ethylhexyl)phthalate Di-n-octylphthalate	UJ	DMC percent recovery below criteria, but above 10%	5
H30S9, H30T0	Dibenzofuran Fluorene 4-Chlorophenyl-phenylether 4-Bromophenyl-phenylether Carbazole			
H30Q1, H30Q4, H30Q6, H30Q8, H30Q9, H30R0, H30R1, H30S9, H30T0, H30T2, H30T5	Fluoranthene Pyrene Benzo(a)anthracene Chrysene	J/UJ		
H30Q4, H30Q6, H30Q8, H30R0, H30R1, H30S9, H30T0, H30T2, H30T5	Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene Indeno(1,2,3-cd)pyrene Dibenzo(a,h)anthracene Benzo(g,h,i)perylene	UJ		
H30Q8, H30R0	All semivolatile compounds	J/UJ	Percent moisture ≥ 70%	10

Sample Number	Aroclor Compound	Qualifier	Reason For Qualification	Review Section
H30Q4, H30Q6	All target Aroclors	UJ	Surrogate percent recoveries below QC limits	4
H30Q8, H30R0		J/UJ	Percent moisture ≥ 70%	10

1. DELIVERABLES

All deliverables were present as specified in the subcontract.

VOA: Yes X No____

Comments: None.

2. HOLDING TIMES AND PRESERVATION CRITERIA

All holding times and preservation criteria were met.

VOA: Yes___ No X

Comments: The soil samples were analyzed within 14 days from sample collection. The laboratory received volatile (VOA) samples in unpreserved jars. In accordance with previous direction from Region 8, the laboratory noted this issue and proceeded with the same procedures as described for field core/storage containers. Therefore, no qualification was taken as the samples were analyzed within 14 days of sample collection.

According to the case narrative and chain-of-custody records (COCs), the sample coolers were received at the laboratory between 6.5 °C and 9.0 °C, which is above the temperature criteria of 4 ± 2 °C. As per the Region instructions, if the samples were received below 10 °C, the laboratory noted the issue and proceeded with the analyses. Therefore, no action was taken.

Sample tags were not received with the samples. In accordance with previous direction from Region 8, the laboratory noted this issue and proceeded with the analyses.

No other shipping or receiving problems were noted. Chain-of-custody, summary forms, and raw data were evaluated.

3. BFB PERFORMANCE RESULTS

The bromofluorobenzene (BFB) performance results were within the specified control limits. All appropriate BFB results were included.

VOA: Yes X No____

Comments: BFB instrument performance checks were run for each 12 hours of analysis. Ion abundance criteria were met and were verified from raw data.

4. INSTRUMENT CALIBRATIONS: INITIAL AND CONTINUING STANDARDS

Initial instrument calibrations were performed according to method requirements and met the project specified control limits.

VOA: Yes___ No_X_

Comments: Initial calibration standards containing both target compounds and the deuterated monitoring compounds (DMCs) were analyzed at the correct frequency. The average relative response factors (RRFs) for the compounds identified by the Functional Guidelines as poor responders were greater than or equal to 0.01 (0.005 for 1,4-dioxane) with the exception noted below. The RRFs for all other target compounds were greater than or equal to 0.05. The percent relative standard deviations (%RSDs) of the RRFs were less than or equal to 50% for 1,4-dioxane, 40% for the poor responders and less than or equal to 20% for all other analytes. Summary forms and raw data were evaluated.

The following table lists the RRF that was less than 0.005 for 1,4-dioxane and qualifiers added to the data:

Compound	%RSD	RRFs	Associated Samples	Qualifiers
1,4-Dioxane	--	0.003	All samples	R

Continuing instrument calibrations were performed according to method requirements and met project specified control limits.

VOA: Yes___ No_X_

Comments: Continuing calibration standards containing both target compounds and the DMCs were analyzed at the beginning and end of each 12-hour analysis period. The RRFs for the compounds identified by the Functional Guidelines as poor responders were greater than or equal to 0.01 (0.005 for 1,4-dioxane) with the exceptions listed below. The RRFs for all other target compounds were greater than or equal to 0.05. The opening standard percent differences (%Ds) of the RRFs were less than or equal to 50% for 1,4-dioxane, 40% for the poor responders and less than or equal to 25% for all other analytes. All %Ds for the closing standards were less than 50% and all RRFs were greater than 0.01 (0.005 for 1,4-dioxane) with the exception listed below. Summary forms and raw data were evaluated.

The following table lists the RRFs that were less than 0.005 for 1,4-dioxane and the qualifiers added to the data:

Compound	%D	RRFs	Associated Samples	Qualifiers
1,4-Dioxane	--	0.002 0.003 0.002	All samples	R

5. DEUTERATED MONITORING COMPOUNDS

Deuterated monitoring compound (DMC) recovery analysis was performed according to method requirements and results met specified control limits.

VOA: Yes___ No_X_

Comments: DMCs were added to all samples and blanks. Summary forms and raw data were evaluated.

The following table lists the samples with DMC percent recoveries (%Rs) outside control limits and the qualifiers added to the data:

Sample Number	DMC	%R	QC Limits	Compounds	Qualifier
H30Q9	Vinyl chloride-d3	65	68-122	Vinyl chloride	UJ
H30R0	Chloroethane-d5	56	61-130	Dichlorodifluoromethane Chloromethane Bromomethane Chloroethane Carbon disulfide	

One DMC recovery was outside criteria for the MS analysis of sample H30Q0. No action is taken on QC samples (i.e., blanks and MS/MSD).

6. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Matrix Spike/Matrix Spike Duplicate (MS/MSD) analyses were performed according to method requirements and results met recommended recovery and precision limits.

VOA: Yes_X_ No____

Comments: MS/MSD analyses were performed on sample H30Q0. The percent recoveries and relative percent differences (RPDs) were within QC limits. Summary forms and raw data were evaluated.

7. INTERNAL STANDARD AREA

Internal standard area analysis was performed according to method requirements and results met specified control limits.

VOA: Yes X No____

Comments: Internal standard area counts did not vary by more than a factor of two from the associated 12-hour calibration standard. The internal standard retention times did not vary more than ± 30 seconds from the retention time of the associated 12-hour calibration standards. Summary forms and raw data were evaluated.

8. LABORATORY BLANK ANALYSIS RESULTS

The laboratory blank analysis was performed according to method requirements and results met specified limits.

VOA: Yes X No____

Comments: Method blank analyses were performed after the calibration standards and once for every 12-hour time period. A storage blank (VHBLKK5) was also analyzed. No target compounds were detected in method blanks or in the storage blank. Summary forms and raw data were evaluated.

9. SAMPLE RESULTS

The sample results were reviewed and all compound identifications were acceptable and met contract requirements.

VOA: Yes____ No X

Comments: Sample relative retention times (RRTs) were within ± 0.06 RRT units of the standard RRT. Ions present in the standard mass spectrum at a relative intensity greater than 10% were present in the sample spectrum. Relative intensities of ions agreed within ±20% between standard and sample spectra. All samples results and CRQL were correctly calculated.

The percent moisture of two samples exceeded 70%, which resulted in qualification. The following table lists the samples with percent moistures greater than 70%, compounds affected, and the qualifiers added to the data:

Sample	Percent Moisture (%)	Compounds	Qualifiers
H30Q8 H30R0	70.1% 74.1%	All volatile compounds	J/UJ

Tentatively identified compounds (TICs) were qualitatively assessed by a mass spectral library search.

10. Additional Comments or Problems/Resolutions Not Addressed Above

VOA: Yes___ No_X_

Comments: None.

1. DELIVERABLES

All deliverables were present as specified in the subcontract.

BNA: Yes X No____

Comments: None.

2. HOLDING TIMES AND PRESERVATION CRITERIA

All holding times and preservation criteria were met.

BNA: Yes X No____

Comments: The soil samples were extracted within 14 days of sample collection and all extracts were analyzed within 40 days from sample extraction.

According to the case narrative and chain-of-custody records (COCs), the sample coolers were received at the laboratory between 6.5 °C and 9.0 °C, which is above the temperature criteria of 4 ± 2 °C. As per the Region instructions, if the samples were received below 10 °C, the laboratory noted the issue and proceeded with the analyses. Therefore, no action was taken.

Sample tags were not received with the samples. In accordance with previous direction from Region 8, the laboratory noted this issue and proceeded with the analyses.

No other shipping or receiving problems were noted. Chain-of-custody, summary forms, and raw data were evaluated.

3. DFTPP PERFORMANCE RESULTS

The decafluorotriphenylphosphine (DFTPP) performance results were within the specified control limits. All appropriate DFTPP results were included.

BNA: Yes X No____

Comments: Instrument performance check solutions were analyzed at the beginning of each 12-hour period of sample analysis. Ion abundance criteria were met and were verified from raw data.

4. INSTRUMENT CALIBRATIONS: INITIAL AND CONTINUING STANDARDS

Initial instrument calibrations were performed according to method requirements and met the specified control limits listed in the Functional Guidelines.

BNA: Yes____ No X
Comments: Initial calibration standards containing both target compounds and the deuterated

monitoring compounds (DMCs) were analyzed at the correct frequency. The average relative response factors (RRFs) for the compounds identified by the Functional Guidelines as poor responders were greater than or equal to 0.01 and the RRFs for all other target compounds were greater than or equal to 0.05. The percent relative standard deviations (%RSDs) of the RRFs were less than or equal to 40% for the poor responders and less than or equal to 20% for all other analytes with the exception below. Summary forms and raw data were evaluated.

The following table lists the %RSD that was greater than 20% and qualifiers added to the data:

Compound	RRFs	%RSD	Associated Samples	Qualifiers
Pentachlorophenol	--	20.8%	All samples	UJ

Continuing instrument calibrations were performed according to method requirements and met specified control limits listed in the Functional Guidelines.

BNA: Yes___ No_X_

Comments: Continuing calibration standards containing both target compounds and the DMCs were analyzed at the beginning and end of each 12-hour analysis period. The RRFs for the compounds identified by the Functional Guidelines as poor responders were greater than or equal to 0.01 and the RRFs for all other target compounds were greater than or equal to 0.05. The opening standard percent differences (%Ds) of the RRFs were less than or equal to 40% for the poor responders and less than or equal to 25% for all other analytes with the exceptions below. All %Ds for the closing standards were less than 50%. Summary forms and raw data were evaluated.

The following table lists %Ds in the opening standards that exceeded 25% and the qualifiers added to the data:

Compound	%D	Associated Samples	Qualifiers
Pentachlorophenol	29.8%	H30T4	UJ
n-Nitroso-di-n-propylamine 4-Chloro-3-methylphenol	33.2% 26.6%	H30Q3	

5. DEUTERATED MONITORING COMPOUNDS

Deuterated monitoring compound (DMC) recovery analysis was performed according to method requirements and results met specified control limits.

BNA: Yes___ No_X_

Comments: DMCs were added to all samples and blanks. Summary forms and raw data were evaluated.

The following table lists the samples with DMC percent recoveries (%Rs) outside control limits and the qualifiers added to the data.

Sample Number	DMC	%R	QC Limits	Compounds	Qualifiers
H30T0	Dimethylphthalate-d6	40%	43-111	Caprolactam 1,1'-Biphenyl Dimethylphthalate Diethylphthalate Di-n-butylphthalate Butylbenzylphthalate Bis(2-ethylhexyl)phthalate Di-n-octylphthalate	UJ
H30S9 H30T0	Fluorene-d10	40% 35%	40-108	Dibenzofuran Fluorene 4-Chlorophenyl-phenylether 4-Bromophenyl-phenylether Carbazole	
H30Q1 H30Q4 H30Q6 H30Q8 H30Q9 H30R0 H30R1 H30S9 H30T0 H30T2 H30T5	Pyrene-d10	49% 47% 48% 50% 39% 42% 47% 47% 40% 51% 51%	51-120	Fluoranthene Pyrene Benzo(a)anthracene Chrysene	J/UJ
H30Q4 H30Q6 H30Q8 H30R0 H30R1 H30S9 H30T0 H30T2 H30T5	Benzo(a)pyrene-d12	30% 31% 39% 32% 37% 39% 35% 40% 42%	43-111	Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene Indeno(1,2,3-cd)pyrene Dibenzo(a,h)anthracene Benzo(g,h,i)perylene	UJ

One DMC recovery was outside criteria for the MSD analysis of sample H30S0. No action is taken on QC samples (i.e., blanks and MS/MSD).

6. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Matrix Spike/Matrix Spike Duplicate (MS/MSD) analyses were performed according to method requirements and results met recommended recovery and precision limits.

BNA: Yes___ No_X_

Comments: MS/MSD analyses were performed on sample H30Q0. Summary forms and raw data were evaluated. The following table lists the result for the MS/MSD analyses that was outside criteria; however, no action is taken based solely on MS/MSD results:

Sample	Compound	Percent Recovery		RPD	Control Limits		Qualifiers
		MS	MSD		% R	RPD	
H30Q0	Pyrene	--	32	--	35-142	--	None

7. INTERNAL STANDARD AREA

Internal standard area analysis was performed according to method requirements and results met specified control limits.

BNA: Yes_X_ No____

Comments: Internal standard area counts did not vary by more than a factor of two from the associated 12-hour calibration standard. The internal standard retention times did not vary more than ± 30 seconds from the retention time of the associated 12-hour calibration standards. Summary forms and raw data were evaluated.

8. LABORATORY BLANK ANALYSIS RESULTS

The laboratory blank analysis was performed according to method requirements and results met specified control limits.

BNA: Yes_X_ No____

Comments: Method blanks were reported per matrix, per concentration level, and for each extraction batch. No target compounds were detected in method blanks. Summary forms and raw data were evaluated.

9. SAMPLE RESULTS

The sample results were reviewed and all compound identifications were acceptable and met contract requirements.

BNA: Yes___ No_X_

Comments: Sample relative retention times (RRTs) were within ± 0.06 RRT units of the standard RRT. Ions present in the standard mass spectrum at a relative intensity greater than 10% were present in the sample spectrum. Relative intensities of ions agreed within ± 20% between standard and sample spectra. All samples results and CRQL were correctly calculated.

The percent moisture of two samples exceeded 70%, which resulted in qualification. The following table lists the samples with percent moistures greater than 70%, compounds affected, and the qualifiers added to the data:

Sample	Percent Moisture (%)	Compounds	Qualifiers
H30Q8 H30R0	70.1% 74.1%	All semivolatile compounds	J/UJ

Tentatively identified compounds (TICs) were qualitatively assessed by a mass spectral library search.

10. Additional Comments or Problems/Resolutions Not Addressed Above

BNA: Yes___ No_X_

Comments: None.

1. DELIVERABLES

All deliverables were present as specified in the subcontract.

AROCLOR: Yes X No____

Comments: None.

2. HOLDING TIMES AND PRESERVATION CRITERIA

All holding times and preservation criteria were met.

AROCLOR: Yes X No____

Comments: The soil samples were extracted within 14 days of sample collection and all extracts were analyzed within 40 days from sample extraction.

According to the case narrative and chain-of-custody records (COCs), the sample coolers were received at the laboratory between 6.5 °C and 9.0 °C, which is above the temperature criteria of 4 ± 2 °C. As per the Region instructions, if the samples were received below 10 °C, the laboratory noted the issue and proceeded with the analyses. Therefore, no action was taken.

Sample tags were not received with the samples. In accordance with previous direction from Region 8, the laboratory noted this issue and proceeded with the analyses.

No other shipping or receiving problems were noted. Chain-of-custody, summary forms, and raw data were evaluated.

3. INSTRUMENT CALIBRATIONS: INITIAL AND CONTINUING STANDARDS

The multi-component target compound analyses were performed according to method requirements:

AROCLOR: Yes X No____

Comments: None.

Initial instrument calibrations were performed according to requirements and met the specified control limits listed in the functional guidelines.

AROCLOR: Yes X No____

Comments: Percent relative standard deviations (%RSDs) for the calibration peaks used to quantitate the Aroclors were less than or equal to 20%.

Continuing instrument calibrations were performed according to requirements and met specified

control limits listed in the functional guidelines.

AROCLOR: Yes X No____

Comments: Continuing calibration standards were analyzed at the required frequency. The percent differences (%Ds) were less than or equal to 15% for the opening Aroclor standards and less than or equal to 50% for the closing Aroclor standards for all standards associated with the samples. Summary forms and raw data were evaluated.

4. SURROGATE COMPOUND RECOVERY

Surrogate compound recovery analysis was performed according to method requirements and results met specified control limits.

AROCLOR: Yes____ No X

Comments: Surrogate compounds were added to all samples and blanks. All surrogate percent recoveries (%Rs) were within QC limits, with the exceptions noted below. Summary forms and raw data were evaluated.

The following table lists the samples with surrogate %Rs outside control limits and the qualifiers added to the data:

Sample Number	Parameter	Surrogate (QC limits)	%R Col 1/ Col 2	Compounds	Qualifiers
H30Q4 H30Q6	Aroclor	Tetrachloro-m-xylene (30-150%)	29 / 30 26 / 28	All target Aroclors	UJ

Although the case narrative indicated these surrogates were outside criteria, the Soil Aroclor Surrogate Recovery form did not flag these results.

5. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Matrix Spike/Matrix Spike Duplicate (MS/MSD) analyses were performed according to method requirements and results met recommended recovery and precision limits.

AROCLOR: Yes____ No X

Comments: Matrix Spike/Matrix Spike Duplicate (MS/MSD) analyses were performed on sample H30Q0 for the Aroclor analyses. The percent recoveries and relative percent differences (RPDs) for the Aroclor MS/MSD analyses were within QC limits, with one exception. The RPD for Aroclor 1016 on the second column at 21% exceeded 15%; however, no action is taken based solely on MS/MSD results.

6. LABORATORY CONTROL SAMPLE

Laboratory control sample (LCS) analyses were performed according to method requirements and results met recommended recovery limits.

AROCLOR: Yes X No____

Comments: All percent recoveries were within QC limits.

7. AROCLOR INSTRUMENT PERFORMANCE

The pesticide resolution check mixture analysis was performed according to method requirements and results met recommended recovery limits.

AROCLOR: Yes____ No_____ NA X

Comments: Resolution check mixtures are not required for the Aroclor analyses.

The pesticide performance evaluation mixture (PEM) analysis was performed according to method requirements and results met recommended recovery limits.

AROCLOR: Yes____ No_____ NA X

Comments: PEM are not required for the Aroclor analyses.

The breakdowns of 4,4'-DDT and Endrin were less than 20% and the combined breakdown was less than 30%.

AROCLOR: Yes____ No_____ NA X

Comments: Breakdown analyses are not required for the Aroclor analyses.

The decachlorobiphenyl (DCB) and tetrachloro-m-xylene (TCMX) retention time shifts were within the specified control limits.

AROCLOR: Yes X No____

Comments: All retention time shift criteria for this data package were met.

8. PESTICIDE CLEANUP CHECKS

The florisil cartridge lot check analysis was performed according to requirements and all spike compounds were within the specified quality control limits.

AROCLOR: Yes____ No_____ NA X

Comments: None.

The gel permeation chromatography (GPC) check was performed according to requirements and all spike compounds were within the specified quality control limits.

AROCLOR: Yes___ No_____ NA_X_

Comments: None.

9. LABORATORY BLANK ANALYSIS RESULTS

The laboratory blank analysis was performed according to method requirements and met specified control limits.

AROCLOR: Yes_X_ No____

Comments: Method blanks were reported per matrix, per concentration level, and for each extraction batch. Additionally, instrument blanks were analyzed as required. Contamination was not detected in the method blanks or instrument blanks for the Aroclor parameter. Summary forms and raw data were evaluated.

10. SAMPLE RESULTS

The sample results were reviewed and all compound identifications were acceptable and met method requirements.

AROCLOR: Yes___ No_X_

Comments: No target Aroclors were detected in the associated samples. No problems with the identification of the sample results were found in the QC samples. All retention time criteria were met for the detected results.

The percent moisture of two samples exceeded 70%, which resulted in qualification. The following table lists the samples with percent moistures greater than 70%, compounds affected, and the qualifiers added to the data:

Sample	Percent Moisture (%)	Compounds	Qualifiers
H30Q8 H30R0	70.1% 74.1%	All Aroclors	J/UJ

11. Additional Comments or Problems/Resolutions Not Addressed Above

AROCLOR: Yes___ No_X_

Comments: None.

ORGANIC DATA QUALITY ASSURANCE REVIEW

Region VIII

DATA QUALIFIER DEFINITIONS

For the purpose of Data Validation, the following code letters and associated definitions are provided for use by the data validator to summarize the data quality.

GENERAL QUALIFIERS for use with both INORGANIC and ORGANIC DATA

R	-	Reported value is "rejected." Resampling or reanalysis may be necessary to verify the presence or absence of the compound.
J	-	The associated numerical value is an estimated quantity because the Quality Control criteria were not met.
U J	-	The reported quantitation limit is estimated because Quality Control criteria were not met. Element or compound was not detected.
N J	-	Estimated value of a tentatively identified compound. (Identified with a CAS number.) ORGANICS analysis only.
U	-	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30T5

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-20C

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V5N2721.D

Level: (TRACE/LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 24 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
75-71-8	Dichlorodifluoromethane	6.6	U
74-87-3	Chloromethane	6.6	U
75-01-4	Vinyl chloride	6.6	U
74-83-9	Bromomethane	6.6	U
75-00-3	Chloroethane	6.6	U
75-69-4	Trichlorofluoromethane	6.6	U
75-35-4	1,1-Dichloroethene	6.6	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	6.6	U
67-64-1	Acetone	13	U
75-15-0	Carbon disulfide	6.6	U
79-20-9	Methyl acetate	6.6	U
75-09-2	Methylene chloride	6.6	U
156-60-5	trans-1,2-Dichloroethene	6.6	U
1634-04-4	Methyl tert-butyl ether	6.6	U
75-34-3	1,1-Dichloroethane	6.6	U
156-59-2	cis-1,2-Dichloroethene	6.6	U
78-93-3	2-Butanone	13	U
74-97-5	Bromochloromethane	6.6	U
67-66-3	Chloroform	6.6	U
71-55-6	1,1,1-Trichloroethane	6.6	U
110-82-7	Cyclohexane	6.6	U
56-23-5	Carbon tetrachloride	6.6	U
71-43-2	Benzene	6.6	U
107-06-2	1,2-Dichloroethane	6.6	U
123-91-1	1,4-Dioxane	130	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30T5

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-20C

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V5N2721.D

Level: (TRACE/LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 24 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
79-01-6	Trichloroethene	6.6	U
108-87-2	Methylcyclohexane	6.6	U
78-87-5	1,2-Dichloropropane	6.6	U
75-27-4	Bromodichloromethane	6.6	U
10061-01-5	cis-1,3-Dichloropropene	6.6	U
108-10-1	4-Methyl-2-pentanone	13	U
108-88-3	Toluene	6.6	U
10061-02-6	trans-1,3-Dichloropropene	6.6	U
79-00-5	1,1,2-Trichloroethane	6.6	U
127-18-4	Tetrachloroethene	6.6	U
591-78-6	2-Hexanone	13	U
124-48-1	Dibromochloromethane	6.6	U
106-93-4	1,2-Dibromoethane	6.6	U
108-90-7	Chlorobenzene	6.6	U
100-41-4	Ethylbenzene	6.6	U
179601-23-1	m,p-Xylene	6.6	U
95-47-6	o-Xylene	6.6	U
100-42-5	Styrene	6.6	U
75-25-2	Bromoform	6.6	U
98-82-8	Isopropylbenzene	6.6	U
79-34-5	1,1,2,2-Tetrachloroethane	6.6	U
541-73-1	1,3-Dichlorobenzene	6.6	U
106-46-7	1,4-Dichlorobenzene	6.6	U
95-50-1	1,2-Dichlorobenzene	6.6	U
96-12-8	1,2-Dibromo-3-chloropropane	6.6	U
120-82-1	1,2,4-Trichlorobenzene	6.6	U
87-61-6	1,2,3-Trichlorobenzene	6.6	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30T5

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-20C

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V5N2721.D

Level: (TRACE or LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 24 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG Purge Volume: 10.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30T4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-19C

Sample wt/vol: 4.80 (g/mL) G Lab File ID: V5N2720.D

Level: (TRACE/LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 20 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
75-71-8	Dichlorodifluoromethane	6.5	U
74-87-3	Chloromethane	6.5	U
75-01-4	Vinyl chloride	6.5	U
74-83-9	Bromomethane	6.5	U
75-00-3	Chloroethane	6.5	U
75-69-4	Trichlorofluoromethane	6.5	U
75-35-4	1,1-Dichloroethene	6.5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	6.5	U
67-64-1	Acetone	13	U
75-15-0	Carbon disulfide	6.5	U
79-20-9	Methyl acetate	6.5	U
75-09-2	Methylene chloride	6.5	U
156-60-5	trans-1,2-Dichloroethene	6.5	U
1634-04-4	Methyl tert-butyl ether	6.5	U
75-34-3	1,1-Dichloroethane	6.5	U
156-59-2	cis-1,2-Dichloroethene	6.5	U
78-93-3	2-Butanone	13	U
74-97-5	Bromochloromethane	6.5	U
67-66-3	Chloroform	6.5	U
71-55-6	1,1,1-Trichloroethane	6.5	U
110-82-7	Cyclohexane	6.5	U
56-23-5	Carbon tetrachloride	6.5	U
71-43-2	Benzene	6.5	U
107-06-2	1,2-Dichloroethane	6.5	U
123-91-1	1,4-Dioxane	130	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30T4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-19C

Sample wt/vol: 4.80 (g/mL) G Lab File ID: V5N2720.D

Level: (TRACE/LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 20 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
79-01-6	Trichloroethene	6.5	U
108-87-2	Methylcyclohexane	6.5	U
78-87-5	1,2-Dichloropropane	6.5	U
75-27-4	Bromodichloromethane	6.5	U
10061-01-5	cis-1,3-Dichloropropene	6.5	U
108-10-1	4-Methyl-2-pentanone	13	U
108-88-3	Toluene	6.5	U
10061-02-6	trans-1,3-Dichloropropene	6.5	U
79-00-5	1,1,2-Trichloroethane	6.5	U
127-18-4	Tetrachloroethene	6.5	U
591-78-6	2-Hexanone	13	U
124-48-1	Dibromochloromethane	6.5	U
106-93-4	1,2-Dibromoethane	6.5	U
108-90-7	Chlorobenzene	6.5	U
100-41-4	Ethylbenzene	6.5	U
179601-23-1	m,p-Xylene	6.5	U
95-47-6	o-Xylene	6.5	U
100-42-5	Styrene	6.5	U
75-25-2	Bromoform	6.5	U
98-82-8	Isopropylbenzene	6.5	U
79-34-5	1,1,2,2-Tetrachloroethane	6.5	U
541-73-1	1,3-Dichlorobenzene	6.5	U
106-46-7	1,4-Dichlorobenzene	6.5	U
95-50-1	1,2-Dichlorobenzene	6.5	U
96-12-8	1,2-Dibromo-3-chloropropane	6.5	U
120-82-1	1,2,4-Trichlorobenzene	6.5	U
87-61-6	1,2,3-Trichlorobenzene	6.5	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30T4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-19C

Sample wt/vol: 4.80 (g/mL) G Lab File ID: V5N2720.D

Level: (TRACE or LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 20 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG Purge Volume: 10.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30T3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-18C

Sample wt/vol: 4.90 (g/mL) G Lab File ID: V5N2719.D

Level: (TRACE/LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 22 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
75-71-8	Dichlorodifluoromethane	6.5	U
74-87-3	Chloromethane	6.5	U
75-01-4	Vinyl chloride	6.5	U
74-83-9	Bromomethane	6.5	U
75-00-3	Chloroethane	6.5	U
75-69-4	Trichlorofluoromethane	6.5	U
75-35-4	1,1-Dichloroethene	6.5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	6.5	U
67-64-1	Acetone	13	U
75-15-0	Carbon disulfide	6.5	U
79-20-9	Methyl acetate	6.5	U
75-09-2	Methylene chloride	6.5	U
156-60-5	trans-1,2-Dichloroethene	6.5	U
1634-04-4	Methyl tert-butyl ether	6.5	U
75-34-3	1,1-Dichloroethane	6.5	U
156-59-2	cis-1,2-Dichloroethene	6.5	U
78-93-3	2-Butanone	13	U
74-97-5	Bromochloromethane	6.5	U
67-66-3	Chloroform	6.5	U
71-55-6	1,1,1-Trichloroethane	6.5	U
110-82-7	Cyclohexane	6.5	U
56-23-5	Carbon tetrachloride	6.5	U
71-43-2	Benzene	6.5	U
107-06-2	1,2-Dichloroethane	6.5	U
123-91-1	1,4-Dioxane	130	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30T3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-18C

Sample wt/vol: 4.90 (g/mL) G Lab File ID: V5N2719.D

Level: (TRACE/LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 22 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
79-01-6	Trichloroethene	6.5	U
108-87-2	Methylcyclohexane	6.5	U
78-87-5	1,2-Dichloropropane	6.5	U
75-27-4	Bromodichloromethane	6.5	U
10061-01-5	cis-1,3-Dichloropropene	6.5	U
108-10-1	4-Methyl-2-pentanone	13	U
108-88-3	Toluene	6.5	U
10061-02-6	trans-1,3-Dichloropropene	6.5	U
79-00-5	1,1,2-Trichloroethane	6.5	U
127-18-4	Tetrachloroethene	6.5	U
591-78-6	2-Hexanone	13	U
124-48-1	Dibromochloromethane	6.5	U
106-93-4	1,2-Dibromoethane	6.5	U
108-90-7	Chlorobenzene	6.5	U
100-41-4	Ethylbenzene	6.5	U
179601-23-1	m,p-Xylene	6.5	U
95-47-6	o-Xylene	6.5	U
100-42-5	Styrene	6.5	U
75-25-2	Bromoform	6.5	U
98-82-8	Isopropylbenzene	6.5	U
79-34-5	1,1,2,2-Tetrachloroethane	6.5	U
541-73-1	1,3-Dichlorobenzene	6.5	U
106-46-7	1,4-Dichlorobenzene	6.5	U
95-50-1	1,2-Dichlorobenzene	6.5	U
96-12-8	1,2-Dibromo-3-chloropropane	6.5	U
120-82-1	1,2,4-Trichlorobenzene	6.5	U
87-61-6	1,2,3-Trichlorobenzene	6.5	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30T3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-18C

Sample wt/vol: 4.90 (g/mL) G Lab File ID: V5N2719.D

Level: (TRACE or LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 22 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG Purge Volume: 10.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30T2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-17C

Sample wt/vol: 5.30 (g/mL) G Lab File ID: V5N2718.D

Level: (TRACE/LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 24 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
75-71-8	Dichlorodifluoromethane	6.2	U
74-87-3	Chloromethane	6.2	U
75-01-4	Vinyl chloride	6.2	U
74-83-9	Bromomethane	6.2	U
75-00-3	Chloroethane	6.2	U
75-69-4	Trichlorofluoromethane	6.2	U
75-35-4	1,1-Dichloroethene	6.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	6.2	U
67-64-1	Acetone	12	U
75-15-0	Carbon disulfide	6.2	U
79-20-9	Methyl acetate	6.2	U
75-09-2	Methylene chloride	6.2	U
156-60-5	trans-1,2-Dichloroethene	6.2	U
1634-04-4	Methyl tert-butyl ether	6.2	U
75-34-3	1,1-Dichloroethane	6.2	U
156-59-2	cis-1,2-Dichloroethene	6.2	U
78-93-3	2-Butanone	12	U
74-97-5	Bromochloromethane	6.2	U
67-66-3	Chloroform	6.2	U
71-55-6	1,1,1-Trichloroethane	6.2	U
110-82-7	Cyclohexane	6.2	U
56-23-5	Carbon tetrachloride	6.2	U
71-43-2	Benzene	6.2	U
107-06-2	1,2-Dichloroethane	6.2	U
123-91-1	1,4-Dioxane	120	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30T2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-17C

Sample wt/vol: 5.30 (g/mL) G Lab File ID: V5N2718.D

Level: (TRACE/LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 24 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
79-01-6	Trichloroethene	6.2	U
108-87-2	Methylcyclohexane	6.2	U
78-87-5	1,2-Dichloropropane	6.2	U
75-27-4	Bromodichloromethane	6.2	U
10061-01-5	cis-1,3-Dichloropropene	6.2	U
108-10-1	4-Methyl-2-pentanone	12	U
108-88-3	Toluene	6.2	U
10061-02-6	trans-1,3-Dichloropropene	6.2	U
79-00-5	1,1,2-Trichloroethane	6.2	U
127-18-4	Tetrachloroethene	6.2	U
591-78-6	2-Hexanone	12	U
124-48-1	Dibromochloromethane	6.2	U
106-93-4	1,2-Dibromoethane	6.2	U
108-90-7	Chlorobenzene	6.2	U
100-41-4	Ethylbenzene	6.2	U
179601-23-1	m,p-Xylene	6.2	U
95-47-6	o-Xylene	6.2	U
100-42-5	Styrene	6.2	U
75-25-2	Bromoform	6.2	U
98-82-8	Isopropylbenzene	6.2	U
79-34-5	1,1,2,2-Tetrachloroethane	6.2	U
541-73-1	1,3-Dichlorobenzene	6.2	U
106-46-7	1,4-Dichlorobenzene	6.2	U
95-50-1	1,2-Dichlorobenzene	6.2	U
96-12-8	1,2-Dibromo-3-chloropropane	6.2	U
120-82-1	1,2,4-Trichlorobenzene	6.2	U
87-61-6	1,2,3-Trichlorobenzene	6.2	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30T2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-17C

Sample wt/vol: 5.30 (g/mL) G Lab File ID: V5N2718.D

Level: (TRACE or LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 24 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG Purge Volume: 10.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30T1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-16C

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V5N2717.D

Level: (TRACE/LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 9.6 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
75-71-8	Dichlorodifluoromethane	5.5	U
74-87-3	Chloromethane	5.5	U
75-01-4	Vinyl chloride	5.5	U
74-83-9	Bromomethane	5.5	U
75-00-3	Chloroethane	5.5	U
75-69-4	Trichlorofluoromethane	5.5	U
75-35-4	1,1-Dichloroethene	5.5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.5	U
67-64-1	Acetone	11	U
75-15-0	Carbon disulfide	5.5	U
79-20-9	Methyl acetate	5.5	U
75-09-2	Methylene chloride	5.5	U
156-60-5	trans-1,2-Dichloroethene	5.5	U
1634-04-4	Methyl tert-butyl ether	5.5	U
75-34-3	1,1-Dichloroethane	5.5	U
156-59-2	cis-1,2-Dichloroethene	5.5	U
78-93-3	2-Butanone	11	U
74-97-5	Bromochloromethane	5.5	U
67-66-3	Chloroform	5.5	U
71-55-6	1,1,1-Trichloroethane	5.5	U
110-82-7	Cyclohexane	5.5	U
56-23-5	Carbon tetrachloride	5.5	U
71-43-2	Benzene	5.5	U
107-06-2	1,2-Dichloroethane	5.5	U
123-91-1	1,4-Dioxane	110	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30T1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-16C

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V5N2717.D

Level: (TRACE/LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 9.6 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
79-01-6	Trichloroethene	5.5	U
108-87-2	Methylcyclohexane	5.5	U
78-87-5	1,2-Dichloropropane	5.5	U
75-27-4	Bromodichloromethane	5.5	U
10061-01-5	cis-1,3-Dichloropropene	5.5	U
108-10-1	4-Methyl-2-pentanone	11	U
108-88-3	Toluene	5.5	U
10061-02-6	trans-1,3-Dichloropropene	5.5	U
79-00-5	1,1,2-Trichloroethane	5.5	U
127-18-4	Tetrachloroethene	5.5	U
591-78-6	2-Hexanone	11	U
124-48-1	Dibromochloromethane	5.5	U
106-93-4	1,2-Dibromoethane	5.5	U
108-90-7	Chlorobenzene	5.5	U
100-41-4	Ethylbenzene	5.5	U
179601-23-1	m,p-Xylene	5.5	U
95-47-6	o-Xylene	5.5	U
100-42-5	Styrene	5.5	U
75-25-2	Bromoform	5.5	U
98-82-8	Isopropylbenzene	5.5	U
79-34-5	1,1,2,2-Tetrachloroethane	5.5	U
541-73-1	1,3-Dichlorobenzene	5.5	U
106-46-7	1,4-Dichlorobenzene	5.5	U
95-50-1	1,2-Dichlorobenzene	5.5	U
96-12-8	1,2-Dibromo-3-chloropropane	5.5	U
120-82-1	1,2,4-Trichlorobenzene	5.5	U
87-61-6	1,2,3-Trichlorobenzene	5.5	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30T1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-16C

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V5N2717.D

Level: (TRACE or LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 9.6 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG Purge Volume: 10.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30T0

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-15C

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V5N2716.D

Level: (TRACE/LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 28 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
75-71-8	Dichlorodifluoromethane	6.9	U
74-87-3	Chloromethane	6.9	U
75-01-4	Vinyl chloride	6.9	U
74-83-9	Bromomethane	6.9	U
75-00-3	Chloroethane	6.9	U
75-69-4	Trichlorofluoromethane	6.9	U
75-35-4	1,1-Dichloroethene	6.9	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	6.9	U
67-64-1	Acetone	14	U
75-15-0	Carbon disulfide	6.9	U
79-20-9	Methyl acetate	6.9	U
75-09-2	Methylene chloride	6.9	U
156-60-5	trans-1,2-Dichloroethene	6.9	U
1634-04-4	Methyl tert-butyl ether	6.9	U
75-34-3	1,1-Dichloroethane	6.9	U
156-59-2	cis-1,2-Dichloroethene	6.9	U
78-93-3	2-Butanone	14	U
74-97-5	Bromochloromethane	6.9	U
67-66-3	Chloroform	6.9	U
71-55-6	1,1,1-Trichloroethane	6.9	U
110-82-7	Cyclohexane	6.9	U
56-23-5	Carbon tetrachloride	6.9	U
71-43-2	Benzene	6.9	U
107-06-2	1,2-Dichloroethane	6.9	U
123-91-1	1,4-Dioxane	140	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30T0

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-15C

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V5N2716.D

Level: (TRACE/LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 28 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
79-01-6	Trichloroethene	6.9	U
108-87-2	Methylcyclohexane	6.9	U
78-87-5	1,2-Dichloropropane	6.9	U
75-27-4	Bromodichloromethane	6.9	U
10061-01-5	cis-1,3-Dichloropropene	6.9	U
108-10-1	4-Methyl-2-pentanone	14	U
108-88-3	Toluene	6.9	U
10061-02-6	trans-1,3-Dichloropropene	6.9	U
79-00-5	1,1,2-Trichloroethane	6.9	U
127-18-4	Tetrachloroethene	6.9	U
591-78-6	2-Hexanone	14	U
124-48-1	Dibromochloromethane	6.9	U
106-93-4	1,2-Dibromoethane	6.9	U
108-90-7	Chlorobenzene	6.9	U
100-41-4	Ethylbenzene	6.9	U
179601-23-1	m,p-Xylene	6.9	U
95-47-6	o-Xylene	6.9	U
100-42-5	Styrene	6.9	U
75-25-2	Bromoform	6.9	U
98-82-8	Isopropylbenzene	6.9	U
79-34-5	1,1,2,2-Tetrachloroethane	6.9	U
541-73-1	1,3-Dichlorobenzene	6.9	U
106-46-7	1,4-Dichlorobenzene	6.9	U
95-50-1	1,2-Dichlorobenzene	6.9	U
96-12-8	1,2-Dibromo-3-chloropropane	6.9	U
120-82-1	1,2,4-Trichlorobenzene	6.9	U
87-61-6	1,2,3-Trichlorobenzene	6.9	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30T0

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-15C

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V5N2716.D

Level: (TRACE or LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 28 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG Purge Volume: 10.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30S9

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-14C

Sample wt/vol: 5.20 (g/mL) G Lab File ID: V5N2715.D

Level: (TRACE/LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 34 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
75-71-8	Dichlorodifluoromethane	7.3	U
74-87-3	Chloromethane	7.3	U
75-01-4	Vinyl chloride	7.3	U
74-83-9	Bromomethane	7.3	U
75-00-3	Chloroethane	7.3	U
75-69-4	Trichlorofluoromethane	7.3	U
75-35-4	1,1-Dichloroethene	7.3	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	7.3	U
67-64-1	Acetone	15	U
75-15-0	Carbon disulfide	7.3	U
79-20-9	Methyl acetate	7.3	U
75-09-2	Methylene chloride	7.3	U
156-60-5	trans-1,2-Dichloroethene	7.3	U
1634-04-4	Methyl tert-butyl ether	7.3	U
75-34-3	1,1-Dichloroethane	7.3	U
156-59-2	cis-1,2-Dichloroethene	7.3	U
78-93-3	2-Butanone	15	U
74-97-5	Bromochloromethane	7.3	U
67-66-3	Chloroform	7.3	U
71-55-6	1,1,1-Trichloroethane	7.3	U
110-82-7	Cyclohexane	7.3	U
56-23-5	Carbon tetrachloride	7.3	U
71-43-2	Benzene	7.3	U
107-06-2	1,2-Dichloroethane	7.3	U
123-91-1	1,4-Dioxane	150	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30S9

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-14C

Sample wt/vol: 5.20 (g/mL) G Lab File ID: V5N2715.D

Level: (TRACE/LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 34 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
79-01-6	Trichloroethene	7.3	U
108-87-2	Methylcyclohexane	7.3	U
78-87-5	1,2-Dichloropropane	7.3	U
75-27-4	Bromodichloromethane	7.3	U
10061-01-5	cis-1,3-Dichloropropene	7.3	U
108-10-1	4-Methyl-2-pentanone	15	U
108-88-3	Toluene	7.3	U
10061-02-6	trans-1,3-Dichloropropene	7.3	U
79-00-5	1,1,2-Trichloroethane	7.3	U
127-18-4	Tetrachloroethene	7.3	U
591-78-6	2-Hexanone	15	U
124-48-1	Dibromochloromethane	7.3	U
106-93-4	1,2-Dibromoethane	7.3	U
108-90-7	Chlorobenzene	7.3	U
100-41-4	Ethylbenzene	7.3	U
179601-23-1	m,p-Xylene	7.3	U
95-47-6	o-Xylene	7.3	U
100-42-5	Styrene	7.3	U
75-25-2	Bromoform	7.3	U
98-82-8	Isopropylbenzene	7.3	U
79-34-5	1,1,2,2-Tetrachloroethane	7.3	U
541-73-1	1,3-Dichlorobenzene	7.3	U
106-46-7	1,4-Dichlorobenzene	7.3	U
95-50-1	1,2-Dichlorobenzene	7.3	U
96-12-8	1,2-Dibromo-3-chloropropane	7.3	U
120-82-1	1,2,4-Trichlorobenzene	7.3	U
87-61-6	1,2,3-Trichlorobenzene	7.3	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30S9

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-14C

Sample wt/vol: 5.20 (g/mL) G Lab File ID: V5N2715.D

Level: (TRACE or LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 34 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG Purge Volume: 10.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30S8

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-13C

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V5N2714.D

Level: (TRACE/LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 33 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
75-71-8	Dichlorodifluoromethane	7.5	U
74-87-3	Chloromethane	7.5	U
75-01-4	Vinyl chloride	7.5	U
74-83-9	Bromomethane	7.5	U
75-00-3	Chloroethane	7.5	U
75-69-4	Trichlorofluoromethane	7.5	U
75-35-4	1,1-Dichloroethene	7.5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	7.5	U
67-64-1	Acetone	15	U
75-15-0	Carbon disulfide	7.5	U
79-20-9	Methyl acetate	7.5	U
75-09-2	Methylene chloride	7.5	U
156-60-5	trans-1,2-Dichloroethene	7.5	U
1634-04-4	Methyl tert-butyl ether	7.5	U
75-34-3	1,1-Dichloroethane	7.5	U
156-59-2	cis-1,2-Dichloroethene	7.5	U
78-93-3	2-Butanone	15	U
74-97-5	Bromochloromethane	7.5	U
67-66-3	Chloroform	7.5	U
71-55-6	1,1,1-Trichloroethane	7.5	U
110-82-7	Cyclohexane	7.5	U
56-23-5	Carbon tetrachloride	7.5	U
71-43-2	Benzene	7.5	U
107-06-2	1,2-Dichloroethane	7.5	U
123-91-1	1,4-Dioxane	150	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30S8

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-13C

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V5N2714.D

Level: (TRACE/LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 33 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
79-01-6	Trichloroethene	7.5	U
108-87-2	Methylcyclohexane	7.5	U
78-87-5	1,2-Dichloropropane	7.5	U
75-27-4	Bromodichloromethane	7.5	U
10061-01-5	cis-1,3-Dichloropropene	7.5	U
108-10-1	4-Methyl-2-pentanone	15	U
108-88-3	Toluene	7.5	U
10061-02-6	trans-1,3-Dichloropropene	7.5	U
79-00-5	1,1,2-Trichloroethane	7.5	U
127-18-4	Tetrachloroethene	7.5	U
591-78-6	2-Hexanone	15	U
124-48-1	Dibromochloromethane	7.5	U
106-93-4	1,2-Dibromoethane	7.5	U
108-90-7	Chlorobenzene	7.5	U
100-41-4	Ethylbenzene	7.5	U
179601-23-1	m,p-Xylene	7.5	U
95-47-6	o-Xylene	7.5	U
100-42-5	Styrene	7.5	U
75-25-2	Bromoform	7.5	U
98-82-8	Isopropylbenzene	7.5	U
79-34-5	1,1,2,2-Tetrachloroethane	7.5	U
541-73-1	1,3-Dichlorobenzene	7.5	U
106-46-7	1,4-Dichlorobenzene	7.5	U
95-50-1	1,2-Dichlorobenzene	7.5	U
96-12-8	1,2-Dibromo-3-chloropropane	7.5	U
120-82-1	1,2,4-Trichlorobenzene	7.5	U
87-61-6	1,2,3-Trichlorobenzene	7.5	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30S8

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-13C

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V5N2714.D

Level: (TRACE or LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 33 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG Purge Volume: 10.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30S5

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-12C

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V5N2713.D

Level: (TRACE/LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 14 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
75-71-8	Dichlorodifluoromethane	5.8	U
74-87-3	Chloromethane	5.8	U
75-01-4	Vinyl chloride	5.8	U
74-83-9	Bromomethane	5.8	U
75-00-3	Chloroethane	5.8	U
75-69-4	Trichlorofluoromethane	5.8	U
75-35-4	1,1-Dichloroethene	5.8	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.8	U
67-64-1	Acetone	12	U
75-15-0	Carbon disulfide	5.8	U
79-20-9	Methyl acetate	5.8	U
75-09-2	Methylene chloride	5.8	U
156-60-5	trans-1,2-Dichloroethene	5.8	U
1634-04-4	Methyl tert-butyl ether	5.8	U
75-34-3	1,1-Dichloroethane	5.8	U
156-59-2	cis-1,2-Dichloroethene	5.8	U
78-93-3	2-Butanone	12	U
74-97-5	Bromochloromethane	5.8	U
67-66-3	Chloroform	5.8	U
71-55-6	1,1,1-Trichloroethane	5.8	U
110-82-7	Cyclohexane	5.8	U
56-23-5	Carbon tetrachloride	5.8	U
71-43-2	Benzene	5.8	U
107-06-2	1,2-Dichloroethane	5.8	U
123-91-1	1,4-Dioxane	120	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30S5

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-12C

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V5N2713.D

Level: (TRACE/LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 14 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
79-01-6	Trichloroethene	5.8	U
108-87-2	Methylcyclohexane	5.8	U
78-87-5	1,2-Dichloropropane	5.8	U
75-27-4	Bromodichloromethane	5.8	U
10061-01-5	cis-1,3-Dichloropropene	5.8	U
108-10-1	4-Methyl-2-pentanone	12	U
108-88-3	Toluene	5.8	U
10061-02-6	trans-1,3-Dichloropropene	5.8	U
79-00-5	1,1,2-Trichloroethane	5.8	U
127-18-4	Tetrachloroethene	5.8	U
591-78-6	2-Hexanone	12	U
124-48-1	Dibromochloromethane	5.8	U
106-93-4	1,2-Dibromoethane	5.8	U
108-90-7	Chlorobenzene	5.8	U
100-41-4	Ethylbenzene	5.8	U
179601-23-1	m,p-Xylene	5.8	U
95-47-6	o-Xylene	5.8	U
100-42-5	Styrene	5.8	U
75-25-2	Bromoform	5.8	U
98-82-8	Isopropylbenzene	5.8	U
79-34-5	1,1,2,2-Tetrachloroethane	5.8	U
541-73-1	1,3-Dichlorobenzene	5.8	U
106-46-7	1,4-Dichlorobenzene	5.8	U
95-50-1	1,2-Dichlorobenzene	5.8	U
96-12-8	1,2-Dibromo-3-chloropropane	5.8	U
120-82-1	1,2,4-Trichlorobenzene	5.8	U
87-61-6	1,2,3-Trichlorobenzene	5.8	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30S5

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-12C

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V5N2713.D

Level: (TRACE or LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 14 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	76-22-2	Camphor	14.506	19	NJ
	E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30S4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-11C

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V5N2712.D

Level: (TRACE/LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 38 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
75-71-8	Dichlorodifluoromethane	8.1	U
74-87-3	Chloromethane	8.1	U
75-01-4	Vinyl chloride	8.1	U
74-83-9	Bromomethane	8.1	U
75-00-3	Chloroethane	8.1	U
75-69-4	Trichlorofluoromethane	8.1	U
75-35-4	1,1-Dichloroethene	8.1	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	8.1	U
67-64-1	Acetone	16	U
75-15-0	Carbon disulfide	8.1	U
79-20-9	Methyl acetate	8.1	U
75-09-2	Methylene chloride	8.1	U
156-60-5	trans-1,2-Dichloroethene	8.1	U
1634-04-4	Methyl tert-butyl ether	8.1	U
75-34-3	1,1-Dichloroethane	8.1	U
156-59-2	cis-1,2-Dichloroethene	8.1	U
78-93-3	2-Butanone	16	U
74-97-5	Bromochloromethane	8.1	U
67-66-3	Chloroform	8.1	U
71-55-6	1,1,1-Trichloroethane	8.1	U
110-82-7	Cyclohexane	8.1	U
56-23-5	Carbon tetrachloride	8.1	U
71-43-2	Benzene	8.1	U
107-06-2	1,2-Dichloroethane	8.1	U
123-91-1	1,4-Dioxane	160	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30S4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-11C

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V5N2712.D

Level: (TRACE/LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 38 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
79-01-6	Trichloroethene	8.1	U
108-87-2	Methylcyclohexane	8.1	U
78-87-5	1,2-Dichloropropane	8.1	U
75-27-4	Bromodichloromethane	8.1	U
10061-01-5	cis-1,3-Dichloropropene	8.1	U
108-10-1	4-Methyl-2-pentanone	16	U
108-88-3	Toluene	8.1	U
10061-02-6	trans-1,3-Dichloropropene	8.1	U
79-00-5	1,1,2-Trichloroethane	8.1	U
127-18-4	Tetrachloroethene	8.1	U
591-78-6	2-Hexanone	16	U
124-48-1	Dibromochloromethane	8.1	U
106-93-4	1,2-Dibromoethane	8.1	U
108-90-7	Chlorobenzene	8.1	U
100-41-4	Ethylbenzene	8.1	U
179601-23-1	m,p-Xylene	8.1	U
95-47-6	o-Xylene	8.1	U
100-42-5	Styrene	8.1	U
75-25-2	Bromoform	8.1	U
98-82-8	Isopropylbenzene	8.1	U
79-34-5	1,1,2,2-Tetrachloroethane	8.1	U
541-73-1	1,3-Dichlorobenzene	8.1	U
106-46-7	1,4-Dichlorobenzene	8.1	U
95-50-1	1,2-Dichlorobenzene	8.1	U
96-12-8	1,2-Dibromo-3-chloropropane	8.1	U
120-82-1	1,2,4-Trichlorobenzene	8.1	U
87-61-6	1,2,3-Trichlorobenzene	8.1	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30S4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-11C

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V5N2712.D

Level: (TRACE or LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 38 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	1195-79-5	Bicyclo[2.2.1]heptan-2-one,	13.531	10	NJ
02	464-48-2	Bicyclo[2.2.1]heptan-2-one,	14.495	110	NJ
	E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30R1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-10C

Sample wt/vol: 4.80 (g/mL) G Lab File ID: V5N2711.D

Level: (TRACE/LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 54 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
75-71-8	Dichlorodifluoromethane	11	U
74-87-3	Chloromethane	11	U
75-01-4	Vinyl chloride	11	U
74-83-9	Bromomethane	11	U
75-00-3	Chloroethane	11	U
75-69-4	Trichlorofluoromethane	11	U
75-35-4	1,1-Dichloroethene	11	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	11	U
67-64-1	Acetone	110	
75-15-0	Carbon disulfide	11	U
79-20-9	Methyl acetate	11	U
75-09-2	Methylene chloride	11	U
156-60-5	trans-1,2-Dichloroethene	11	U
1634-04-4	Methyl tert-butyl ether	11	U
75-34-3	1,1-Dichloroethane	11	U
156-59-2	cis-1,2-Dichloroethene	11	U
78-93-3	2-Butanone	23	U
74-97-5	Bromochloromethane	11	U
67-66-3	Chloroform	11	U
71-55-6	1,1,1-Trichloroethane	11	U
110-82-7	Cyclohexane	11	U
56-23-5	Carbon tetrachloride	11	U
71-43-2	Benzene	11	U
107-06-2	1,2-Dichloroethane	11	U
123-91-1	1,4-Dioxane	230	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30R1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-10C

Sample wt/vol: 4.80 (g/mL) G Lab File ID: V5N2711.D

Level: (TRACE/LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 54 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
79-01-6	Trichloroethene	11	U
108-87-2	Methylcyclohexane	11	U
78-87-5	1,2-Dichloropropane	11	U
75-27-4	Bromodichloromethane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
108-10-1	4-Methyl-2-pentanone	23	U
108-88-3	Toluene	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
79-00-5	1,1,2-Trichloroethane	11	U
127-18-4	Tetrachloroethene	11	U
591-78-6	2-Hexanone	23	U
124-48-1	Dibromochloromethane	11	U
106-93-4	1,2-Dibromoethane	11	U
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
179601-23-1	m,p-Xylene	11	U
95-47-6	o-Xylene	11	U
100-42-5	Styrene	11	U
75-25-2	Bromoform	11	U
98-82-8	Isopropylbenzene	10	J
79-34-5	1,1,2,2-Tetrachloroethane	11	U
541-73-1	1,3-Dichlorobenzene	11	U
106-46-7	1,4-Dichlorobenzene	11	U
95-50-1	1,2-Dichlorobenzene	11	U
96-12-8	1,2-Dibromo-3-chloropropane	11	U
120-82-1	1,2,4-Trichlorobenzene	11	U
87-61-6	1,2,3-Trichlorobenzene	11	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30R1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-10C

Sample wt/vol: 4.80 (g/mL) G Lab File ID: V5N2711.D

Level: (TRACE or LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 54 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	79-92-5	Camphene	10.902	300	NJ
02		Unknown-01	11.238	12	J
03	5256-65-5	Cyclohexene, 3-methyl-6-(1-m	11.296	15	NJ
04	5256-65-5	Cyclohexene, 3-methyl-6-(1-m	11.389	430	NJ
05	13466-78-9	3-Carene	11.773	340	NJ
06	5502-88-5	Cyclohexene, 1-methyl-4-(1-m	11.935	20	NJ
07	138-86-3	Limonene	12.063	98	NJ
08	99-87-6	Benzene, 1-methyl-4-(1-methy	12.144	4700	NJ
09	126-21-6	L-Fenchone	13.538	22	NJ
10		Unknown-02	14.339	20	J
11	464-49-3	Bicyclo[2.2.1]heptan-2-one,	14.502	81	NJ
	E96679€ [1]	Total Alkanes	N/A	22	J

[1] EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30R0

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-09C

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V5N2710.D

Level: (TRACE/LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 74 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
75-71-8	Dichlorodifluoromethane	19	U
74-87-3	Chloromethane	19	U
75-01-4	Vinyl chloride	19	U
74-83-9	Bromomethane	19	U
75-00-3	Chloroethane	19	U
75-69-4	Trichlorofluoromethane	19	U
75-35-4	1,1-Dichloroethene	19	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	19	U
67-64-1	Acetone	39	U
75-15-0	Carbon disulfide	19	U
79-20-9	Methyl acetate	19	U
75-09-2	Methylene chloride	19	U
156-60-5	trans-1,2-Dichloroethene	19	U
1634-04-4	Methyl tert-butyl ether	19	U
75-34-3	1,1-Dichloroethane	19	U
156-59-2	cis-1,2-Dichloroethene	19	U
78-93-3	2-Butanone	39	U
74-97-5	Bromochloromethane	19	U
67-66-3	Chloroform	19	U
71-55-6	1,1,1-Trichloroethane	19	U
110-82-7	Cyclohexane	19	U
56-23-5	Carbon tetrachloride	19	U
71-43-2	Benzene	19	U
107-06-2	1,2-Dichloroethane	19	U
123-91-1	1,4-Dioxane	390	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30R0

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-09C

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V5N2710.D

Level: (TRACE/LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 74 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
79-01-6	Trichloroethene	19	U
108-87-2	Methylcyclohexane	19	U
78-87-5	1,2-Dichloropropane	19	U
75-27-4	Bromodichloromethane	19	U
10061-01-5	cis-1,3-Dichloropropene	19	U
108-10-1	4-Methyl-2-pentanone	39	U
108-88-3	Toluene	19	U
10061-02-6	trans-1,3-Dichloropropene	19	U
79-00-5	1,1,2-Trichloroethane	19	U
127-18-4	Tetrachloroethene	19	U
591-78-6	2-Hexanone	39	U
124-48-1	Dibromochloromethane	19	U
106-93-4	1,2-Dibromoethane	19	U
108-90-7	Chlorobenzene	19	U
100-41-4	Ethylbenzene	19	U
179601-23-1	m,p-Xylene	19	U
95-47-6	o-Xylene	19	U
100-42-5	Styrene	19	U
75-25-2	Bromoform	19	U
98-82-8	Isopropylbenzene	19	U
79-34-5	1,1,2,2-Tetrachloroethane	19	U
541-73-1	1,3-Dichlorobenzene	19	U
106-46-7	1,4-Dichlorobenzene	19	U
95-50-1	1,2-Dichlorobenzene	19	U
96-12-8	1,2-Dibromo-3-chloropropane	19	U
120-82-1	1,2,4-Trichlorobenzene	19	U
87-61-6	1,2,3-Trichlorobenzene	19	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30R0

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-09C

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V5N2710.D

Level: (TRACE or LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 74 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG Purge Volume: 10.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Q9

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-08C

Sample wt/vol: 5.20 (g/mL) G Lab File ID: V5N2709.D

Level: (TRACE/LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 62 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
75-71-8	Dichlorodifluoromethane	13	U
74-87-3	Chloromethane	13	U
75-01-4	Vinyl chloride	13	U
74-83-9	Bromomethane	13	U
75-00-3	Chloroethane	13	U
75-69-4	Trichlorofluoromethane	13	U
75-35-4	1,1-Dichloroethene	13	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	13	U
67-64-1	Acetone	100	
75-15-0	Carbon disulfide	13	U
79-20-9	Methyl acetate	13	U
75-09-2	Methylene chloride	13	U
156-60-5	trans-1,2-Dichloroethene	13	U
1634-04-4	Methyl tert-butyl ether	13	U
75-34-3	1,1-Dichloroethane	13	U
156-59-2	cis-1,2-Dichloroethene	13	U
78-93-3	2-Butanone	25	U
74-97-5	Bromochloromethane	13	U
67-66-3	Chloroform	13	U
71-55-6	1,1,1-Trichloroethane	13	U
110-82-7	Cyclohexane	13	U
56-23-5	Carbon tetrachloride	13	U
71-43-2	Benzene	13	U
107-06-2	1,2-Dichloroethane	13	U
123-91-1	1,4-Dioxane	250	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Q9

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-08C

Sample wt/vol: 5.20 (g/mL) G Lab File ID: V5N2709.D

Level: (TRACE/LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 62 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
79-01-6	Trichloroethene	13	U
108-87-2	Methylcyclohexane	13	U
78-87-5	1,2-Dichloropropane	13	U
75-27-4	Bromodichloromethane	13	U
10061-01-5	cis-1,3-Dichloropropene	13	U
108-10-1	4-Methyl-2-pentanone	25	U
108-88-3	Toluene	13	U
10061-02-6	trans-1,3-Dichloropropene	13	U
79-00-5	1,1,2-Trichloroethane	13	U
127-18-4	Tetrachloroethene	13	U
591-78-6	2-Hexanone	25	U
124-48-1	Dibromochloromethane	13	U
106-93-4	1,2-Dibromoethane	13	U
108-90-7	Chlorobenzene	13	U
100-41-4	Ethylbenzene	13	U
179601-23-1	m,p-Xylene	13	U
95-47-6	o-Xylene	13	U
100-42-5	Styrene	13	U
75-25-2	Bromoform	13	U
98-82-8	Isopropylbenzene	13	U
79-34-5	1,1,2,2-Tetrachloroethane	13	U
541-73-1	1,3-Dichlorobenzene	13	U
106-46-7	1,4-Dichlorobenzene	13	U
95-50-1	1,2-Dichlorobenzene	13	U
96-12-8	1,2-Dibromo-3-chloropropane	13	U
120-82-1	1,2,4-Trichlorobenzene	13	U
87-61-6	1,2,3-Trichlorobenzene	13	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30Q9

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-08C

Sample wt/vol: 5.20 (g/mL) G Lab File ID: V5N2709.D

Level: (TRACE or LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 62 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	7785-70-8	1R-.alpha.-Pinene	10.570	83	NJ
02	79-92-5	Camphene	10.906	140	NJ
03		Unknown-01	11.301	15	J
04	5256-65-5	Cyclohexene, 3-methyl-6-(1-m	11.382	150	NJ
05	13466-78-9	3-Carene	11.766	530	NJ
06		Unknown-02	12.068	58	J
07	527-84-4	Benzene, 1-methyl-2-(1-methy	12.126	1400	NJ
08	7787-20-4	Bicyclo[2.2.1]heptan-2-one,	13.542	14	NJ
09	464-48-2	Bicyclo[2.2.1]heptan-2-one,	14.495	56	NJ
10	475-20-7	1,4-Methanoazulene, decahydr	17.224	14	NJ
	E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Q8

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-07C

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V5N2708.D

Level: (TRACE/LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 70 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
75-71-8	Dichlorodifluoromethane	17	U
74-87-3	Chloromethane	17	U
75-01-4	Vinyl chloride	17	U
74-83-9	Bromomethane	17	U
75-00-3	Chloroethane	17	U
75-69-4	Trichlorofluoromethane	17	U
75-35-4	1,1-Dichloroethene	17	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	17	U
67-64-1	Acetone	33	U
75-15-0	Carbon disulfide	17	U
79-20-9	Methyl acetate	17	U
75-09-2	Methylene chloride	17	U
156-60-5	trans-1,2-Dichloroethene	17	U
1634-04-4	Methyl tert-butyl ether	17	U
75-34-3	1,1-Dichloroethane	17	U
156-59-2	cis-1,2-Dichloroethene	17	U
78-93-3	2-Butanone	33	U
74-97-5	Bromochloromethane	17	U
67-66-3	Chloroform	17	U
71-55-6	1,1,1-Trichloroethane	17	U
110-82-7	Cyclohexane	17	U
56-23-5	Carbon tetrachloride	17	U
71-43-2	Benzene	17	U
107-06-2	1,2-Dichloroethane	17	U
123-91-1	1,4-Dioxane	330	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Q8

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-07C

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V5N2708.D

Level: (TRACE/LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 70 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
79-01-6	Trichloroethene	17	U
108-87-2	Methylcyclohexane	17	U
78-87-5	1,2-Dichloropropane	17	U
75-27-4	Bromodichloromethane	17	U
10061-01-5	cis-1,3-Dichloropropene	17	U
108-10-1	4-Methyl-2-pentanone	33	U
108-88-3	Toluene	17	U
10061-02-6	trans-1,3-Dichloropropene	17	U
79-00-5	1,1,2-Trichloroethane	17	U
127-18-4	Tetrachloroethene	17	U
591-78-6	2-Hexanone	33	U
124-48-1	Dibromochloromethane	17	U
106-93-4	1,2-Dibromoethane	17	U
108-90-7	Chlorobenzene	17	U
100-41-4	Ethylbenzene	17	U
179601-23-1	m,p-Xylene	17	U
95-47-6	o-Xylene	17	U
100-42-5	Styrene	17	U
75-25-2	Bromoform	17	U
98-82-8	Isopropylbenzene	17	U
79-34-5	1,1,2,2-Tetrachloroethane	17	U
541-73-1	1,3-Dichlorobenzene	17	U
106-46-7	1,4-Dichlorobenzene	17	U
95-50-1	1,2-Dichlorobenzene	17	U
96-12-8	1,2-Dibromo-3-chloropropane	17	U
120-82-1	1,2,4-Trichlorobenzene	17	U
87-61-6	1,2,3-Trichlorobenzene	17	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30Q8

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-07C

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V5N2708.D

Level: (TRACE or LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 70 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG Purge Volume: 10.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E96679€ [1]	Total Alkanes	N/A		

[1] EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Q6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-06C

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V5N2707.D

Level: (TRACE/LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 48 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
75-71-8	Dichlorodifluoromethane	9.6	U
74-87-3	Chloromethane	9.6	U
75-01-4	Vinyl chloride	9.6	U
74-83-9	Bromomethane	9.6	U
75-00-3	Chloroethane	9.6	U
75-69-4	Trichlorofluoromethane	9.6	U
75-35-4	1,1-Dichloroethene	9.6	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	9.6	U
67-64-1	Acetone	19	U
75-15-0	Carbon disulfide	9.6	U
79-20-9	Methyl acetate	9.6	U
75-09-2	Methylene chloride	9.6	U
156-60-5	trans-1,2-Dichloroethene	9.6	U
1634-04-4	Methyl tert-butyl ether	9.6	U
75-34-3	1,1-Dichloroethane	9.6	U
156-59-2	cis-1,2-Dichloroethene	9.6	U
78-93-3	2-Butanone	19	U
74-97-5	Bromochloromethane	9.6	U
67-66-3	Chloroform	9.6	U
71-55-6	1,1,1-Trichloroethane	9.6	U
110-82-7	Cyclohexane	9.6	U
56-23-5	Carbon tetrachloride	9.6	U
71-43-2	Benzene	9.6	U
107-06-2	1,2-Dichloroethane	9.6	U
123-91-1	1,4-Dioxane	190	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Q6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-06C

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V5N2707.D

Level: (TRACE/LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 48 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
79-01-6	Trichloroethene	9.6	U
108-87-2	Methylcyclohexane	9.6	U
78-87-5	1,2-Dichloropropane	9.6	U
75-27-4	Bromodichloromethane	9.6	U
10061-01-5	cis-1,3-Dichloropropene	9.6	U
108-10-1	4-Methyl-2-pentanone	19	U
108-88-3	Toluene	9.6	U
10061-02-6	trans-1,3-Dichloropropene	9.6	U
79-00-5	1,1,2-Trichloroethane	9.6	U
127-18-4	Tetrachloroethene	9.6	U
591-78-6	2-Hexanone	19	U
124-48-1	Dibromochloromethane	9.6	U
106-93-4	1,2-Dibromoethane	9.6	U
108-90-7	Chlorobenzene	9.6	U
100-41-4	Ethylbenzene	9.6	U
179601-23-1	m,p-Xylene	9.6	U
95-47-6	o-Xylene	9.6	U
100-42-5	Styrene	9.6	U
75-25-2	Bromoform	9.6	U
98-82-8	Isopropylbenzene	9.6	U
79-34-5	1,1,2,2-Tetrachloroethane	9.6	U
541-73-1	1,3-Dichlorobenzene	9.6	U
106-46-7	1,4-Dichlorobenzene	9.6	U
95-50-1	1,2-Dichlorobenzene	9.6	U
96-12-8	1,2-Dibromo-3-chloropropane	9.6	U
120-82-1	1,2,4-Trichlorobenzene	9.6	U
87-61-6	1,2,3-Trichlorobenzene	9.6	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30Q6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-06C

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V5N2707.D

Level: (TRACE or LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 48 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG Purge Volume: 10.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Q4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-05C

Sample wt/vol: 5.10 (g/mL) G Lab File ID: V5N2706.D

Level: (TRACE/LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 16 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
75-71-8	Dichlorodifluoromethane	5.8	U
74-87-3	Chloromethane	5.8	U
75-01-4	Vinyl chloride	5.8	U
74-83-9	Bromomethane	5.8	U
75-00-3	Chloroethane	5.8	U
75-69-4	Trichlorofluoromethane	5.8	U
75-35-4	1,1-Dichloroethene	5.8	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.8	U
67-64-1	Acetone	12	U
75-15-0	Carbon disulfide	5.8	U
79-20-9	Methyl acetate	5.8	U
75-09-2	Methylene chloride	5.8	U
156-60-5	trans-1,2-Dichloroethene	5.8	U
1634-04-4	Methyl tert-butyl ether	5.8	U
75-34-3	1,1-Dichloroethane	5.8	U
156-59-2	cis-1,2-Dichloroethene	5.8	U
78-93-3	2-Butanone	12	U
74-97-5	Bromochloromethane	5.8	U
67-66-3	Chloroform	5.8	U
71-55-6	1,1,1-Trichloroethane	5.8	U
110-82-7	Cyclohexane	5.8	U
56-23-5	Carbon tetrachloride	5.8	U
71-43-2	Benzene	5.8	U
107-06-2	1,2-Dichloroethane	5.8	U
123-91-1	1,4-Dioxane	120	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Q4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-05C

Sample wt/vol: 5.10 (g/mL) G Lab File ID: V5N2706.D

Level: (TRACE/LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 16 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
79-01-6	Trichloroethene	5.8	U
108-87-2	Methylcyclohexane	5.8	U
78-87-5	1,2-Dichloropropane	5.8	U
75-27-4	Bromodichloromethane	5.8	U
10061-01-5	cis-1,3-Dichloropropene	5.8	U
108-10-1	4-Methyl-2-pentanone	12	U
108-88-3	Toluene	5.8	U
10061-02-6	trans-1,3-Dichloropropene	5.8	U
79-00-5	1,1,2-Trichloroethane	5.8	U
127-18-4	Tetrachloroethene	5.8	U
591-78-6	2-Hexanone	12	U
124-48-1	Dibromochloromethane	5.8	U
106-93-4	1,2-Dibromoethane	5.8	U
108-90-7	Chlorobenzene	5.8	U
100-41-4	Ethylbenzene	5.8	U
179601-23-1	m,p-Xylene	5.8	U
95-47-6	o-Xylene	5.8	U
100-42-5	Styrene	5.8	U
75-25-2	Bromoform	5.8	U
98-82-8	Isopropylbenzene	5.8	U
79-34-5	1,1,2,2-Tetrachloroethane	5.8	U
541-73-1	1,3-Dichlorobenzene	5.8	U
106-46-7	1,4-Dichlorobenzene	5.8	U
95-50-1	1,2-Dichlorobenzene	5.8	U
96-12-8	1,2-Dibromo-3-chloropropane	5.8	U
120-82-1	1,2,4-Trichlorobenzene	5.8	U
87-61-6	1,2,3-Trichlorobenzene	5.8	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30Q4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-05C

Sample wt/vol: 5.10 (g/mL) G Lab File ID: V5N2706.D

Level: (TRACE or LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 16 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG Purge Volume: 10.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E96679€ [1]	Total Alkanes	N/A		

[1] EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO. H30Q3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-04C

Sample wt/vol: 5.20 (g/mL) G Lab File ID: V5N2705.D

Level: (TRACE/LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 19 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
75-71-8	Dichlorodifluoromethane	5.9	U
74-87-3	Chloromethane	5.9	U
75-01-4	Vinyl chloride	5.9	U
74-83-9	Bromomethane	5.9	U
75-00-3	Chloroethane	5.9	U
75-69-4	Trichlorofluoromethane	5.9	U
75-35-4	1,1-Dichloroethene	5.9	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.9	U
67-64-1	Acetone	12	U
75-15-0	Carbon disulfide	5.9	U
79-20-9	Methyl acetate	5.9	U
75-09-2	Methylene chloride	5.9	U
156-60-5	trans-1,2-Dichloroethene	5.9	U
1634-04-4	Methyl tert-butyl ether	5.9	U
75-34-3	1,1-Dichloroethane	5.9	U
156-59-2	cis-1,2-Dichloroethene	5.9	U
78-93-3	2-Butanone	12	U
74-97-5	Bromochloromethane	5.9	U
67-66-3	Chloroform	5.9	U
71-55-6	1,1,1-Trichloroethane	5.9	U
110-82-7	Cyclohexane	5.9	U
56-23-5	Carbon tetrachloride	5.9	U
71-43-2	Benzene	5.9	U
107-06-2	1,2-Dichloroethane	5.9	U
123-91-1	1,4-Dioxane	120	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Q3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-04C

Sample wt/vol: 5.20 (g/mL) G Lab File ID: V5N2705.D

Level: (TRACE/LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 19 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
79-01-6	Trichloroethene	5.9	U
108-87-2	Methylcyclohexane	5.9	U
78-87-5	1,2-Dichloropropane	5.9	U
75-27-4	Bromodichloromethane	5.9	U
10061-01-5	cis-1,3-Dichloropropene	5.9	U
108-10-1	4-Methyl-2-pentanone	12	U
108-88-3	Toluene	5.9	U
10061-02-6	trans-1,3-Dichloropropene	5.9	U
79-00-5	1,1,2-Trichloroethane	5.9	U
127-18-4	Tetrachloroethene	5.9	U
591-78-6	2-Hexanone	12	U
124-48-1	Dibromochloromethane	5.9	U
106-93-4	1,2-Dibromoethane	5.9	U
108-90-7	Chlorobenzene	5.9	U
100-41-4	Ethylbenzene	5.9	U
179601-23-1	m,p-Xylene	5.9	U
95-47-6	o-Xylene	5.9	U
100-42-5	Styrene	5.9	U
75-25-2	Bromoform	5.9	U
98-82-8	Isopropylbenzene	5.9	U
79-34-5	1,1,2,2-Tetrachloroethane	5.9	U
541-73-1	1,3-Dichlorobenzene	5.9	U
106-46-7	1,4-Dichlorobenzene	5.9	U
95-50-1	1,2-Dichlorobenzene	5.9	U
96-12-8	1,2-Dibromo-3-chloropropane	5.9	U
120-82-1	1,2,4-Trichlorobenzene	5.9	U
87-61-6	1,2,3-Trichlorobenzene	5.9	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30Q3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-04C

Sample wt/vol: 5.20 (g/mL) G Lab File ID: V5N2705.D

Level: (TRACE or LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 19 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG Purge Volume: 10.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E96679€ [1]	Total Alkanes	N/A		

[1] EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Q2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-03C

Sample wt/vol: 4.90 (g/mL) G Lab File ID: V5N2704.D

Level: (TRACE/LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 16 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
75-71-8	Dichlorodifluoromethane	6.0	U
74-87-3	Chloromethane	6.0	U
75-01-4	Vinyl chloride	6.0	U
74-83-9	Bromomethane	6.0	U
75-00-3	Chloroethane	6.0	U
75-69-4	Trichlorofluoromethane	6.0	U
75-35-4	1,1-Dichloroethene	6.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	6.0	U
67-64-1	Acetone	12	U
75-15-0	Carbon disulfide	6.0	U
79-20-9	Methyl acetate	6.0	U
75-09-2	Methylene chloride	6.0	U
156-60-5	trans-1,2-Dichloroethene	6.0	U
1634-04-4	Methyl tert-butyl ether	6.0	U
75-34-3	1,1-Dichloroethane	6.0	U
156-59-2	cis-1,2-Dichloroethene	6.0	U
78-93-3	2-Butanone	12	U
74-97-5	Bromochloromethane	6.0	U
67-66-3	Chloroform	6.0	U
71-55-6	1,1,1-Trichloroethane	6.0	U
110-82-7	Cyclohexane	6.0	U
56-23-5	Carbon tetrachloride	6.0	U
71-43-2	Benzene	6.0	U
107-06-2	1,2-Dichloroethane	6.0	U
123-91-1	1,4-Dioxane	120	U

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Q2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-03C

Sample wt/vol: 4.90 (g/mL) G Lab File ID: V5N2704.D

Level: (TRACE/LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 16 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
79-01-6	Trichloroethene	6.0	U
108-87-2	Methylcyclohexane	6.0	U
78-87-5	1,2-Dichloropropane	6.0	U
75-27-4	Bromodichloromethane	6.0	U
10061-01-5	cis-1,3-Dichloropropene	6.0	U
108-10-1	4-Methyl-2-pentanone	12	U
108-88-3	Toluene	6.0	U
10061-02-6	trans-1,3-Dichloropropene	6.0	U
79-00-5	1,1,2-Trichloroethane	6.0	U
127-18-4	Tetrachloroethene	6.0	U
591-78-6	2-Hexanone	12	U
124-48-1	Dibromochloromethane	6.0	U
106-93-4	1,2-Dibromoethane	6.0	U
108-90-7	Chlorobenzene	6.0	U
100-41-4	Ethylbenzene	6.0	U
179601-23-1	m,p-Xylene	6.0	U
95-47-6	o-Xylene	6.0	U
100-42-5	Styrene	6.0	U
75-25-2	Bromoform	6.0	U
98-82-8	Isopropylbenzene	6.0	U
79-34-5	1,1,2,2-Tetrachloroethane	6.0	U
541-73-1	1,3-Dichlorobenzene	6.0	U
106-46-7	1,4-Dichlorobenzene	6.0	U
95-50-1	1,2-Dichlorobenzene	6.0	U
96-12-8	1,2-Dibromo-3-chloropropane	6.0	U
120-82-1	1,2,4-Trichlorobenzene	6.0	U
87-61-6	1,2,3-Trichlorobenzene	6.0	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30Q2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-03C

Sample wt/vol: 4.90 (g/mL) G Lab File ID: V5N2704.D

Level: (TRACE or LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 16 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG Purge Volume: 10.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E96679[1]	Total Alkanes	N/A		

[1]EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Q1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-02C

Sample wt/vol: 5.10 (g/mL) G Lab File ID: V5N2703.D

Level: (TRACE/LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 22 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
75-71-8	Dichlorodifluoromethane	6.3	U
74-87-3	Chloromethane	6.3	U
75-01-4	Vinyl chloride	6.3	U
74-83-9	Bromomethane	6.3	U
75-00-3	Chloroethane	6.3	U
75-69-4	Trichlorofluoromethane	6.3	U
75-35-4	1,1-Dichloroethene	6.3	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	6.3	U
67-64-1	Acetone	13	U
75-15-0	Carbon disulfide	6.3	U
79-20-9	Methyl acetate	6.3	U
75-09-2	Methylene chloride	6.3	U
156-60-5	trans-1,2-Dichloroethene	6.3	U
1634-04-4	Methyl tert-butyl ether	6.3	U
75-34-3	1,1-Dichloroethane	6.3	U
156-59-2	cis-1,2-Dichloroethene	6.3	U
78-93-3	2-Butanone	13	U
74-97-5	Bromochloromethane	6.3	U
67-66-3	Chloroform	6.3	U
71-55-6	1,1,1-Trichloroethane	6.3	U
110-82-7	Cyclohexane	6.3	U
56-23-5	Carbon tetrachloride	6.3	U
71-43-2	Benzene	6.3	U
107-06-2	1,2-Dichloroethane	6.3	U
123-91-1	1,4-Dioxane	130	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Q1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-02C

Sample wt/vol: 5.10 (g/mL) G Lab File ID: V5N2703.D

Level: (TRACE/LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 22 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
79-01-6	Trichloroethene	6.3	U
108-87-2	Methylcyclohexane	6.3	U
78-87-5	1,2-Dichloropropane	6.3	U
75-27-4	Bromodichloromethane	6.3	U
10061-01-5	cis-1,3-Dichloropropene	6.3	U
108-10-1	4-Methyl-2-pentanone	13	U
108-88-3	Toluene	6.3	U
10061-02-6	trans-1,3-Dichloropropene	6.3	U
79-00-5	1,1,2-Trichloroethane	6.3	U
127-18-4	Tetrachloroethene	6.3	U
591-78-6	2-Hexanone	13	U
124-48-1	Dibromochloromethane	6.3	U
106-93-4	1,2-Dibromoethane	6.3	U
108-90-7	Chlorobenzene	6.3	U
100-41-4	Ethylbenzene	6.3	U
179601-23-1	m,p-Xylene	6.3	U
95-47-6	o-Xylene	6.3	U
100-42-5	Styrene	6.3	U
75-25-2	Bromoform	6.3	U
98-82-8	Isopropylbenzene	6.3	U
79-34-5	1,1,2,2-Tetrachloroethane	6.3	U
541-73-1	1,3-Dichlorobenzene	6.3	U
106-46-7	1,4-Dichlorobenzene	6.3	U
95-50-1	1,2-Dichlorobenzene	6.3	U
96-12-8	1,2-Dibromo-3-chloropropane	6.3	U
120-82-1	1,2,4-Trichlorobenzene	6.3	U
87-61-6	1,2,3-Trichlorobenzene	6.3	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30Q1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-02C

Sample wt/vol: 5.10 (g/mL) G Lab File ID: V5N2703.D

Level: (TRACE or LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 22 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG Purge Volume: 10.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E96679€ [1]	Total Alkanes	N/A		

[1] EPA-designated Registry Number.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO. H30Q0

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-01C

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V5N2727.D

Level: (TRACE/LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 15 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
75-71-8	Dichlorodifluoromethane	5.9	U
74-87-3	Chloromethane	5.9	U
75-01-4	Vinyl chloride	5.9	U
74-83-9	Bromomethane	5.9	U
75-00-3	Chloroethane	5.9	U
75-69-4	Trichlorofluoromethane	5.9	U
75-35-4	1,1-Dichloroethene	5.9	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.9	U
67-64-1	Acetone	12	U
75-15-0	Carbon disulfide	5.9	U
79-20-9	Methyl acetate	5.9	U
75-09-2	Methylene chloride	5.9	U
156-60-5	trans-1,2-Dichloroethene	5.9	U
1634-04-4	Methyl tert-butyl ether	5.9	U
75-34-3	1,1-Dichloroethane	5.9	U
156-59-2	cis-1,2-Dichloroethene	5.9	U
78-93-3	2-Butanone	12	U
74-97-5	Bromochloromethane	5.9	U
67-66-3	Chloroform	5.9	U
71-55-6	1,1,1-Trichloroethane	5.9	U
110-82-7	Cyclohexane	5.9	U
56-23-5	Carbon tetrachloride	5.9	U
71-43-2	Benzene	5.9	U
107-06-2	1,2-Dichloroethane	5.9	U
123-91-1	1,4-Dioxane	120	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Q0

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-01C

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V5N2727.D

Level: (TRACE/LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 15 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
79-01-6	Trichloroethene	5.9	U
108-87-2	Methylcyclohexane	5.9	U
78-87-5	1,2-Dichloropropane	5.9	U
75-27-4	Bromodichloromethane	5.9	U
10061-01-5	cis-1,3-Dichloropropene	5.9	U
108-10-1	4-Methyl-2-pentanone	12	U
108-88-3	Toluene	5.9	U
10061-02-6	trans-1,3-Dichloropropene	5.9	U
79-00-5	1,1,2-Trichloroethane	5.9	U
127-18-4	Tetrachloroethene	5.9	U
591-78-6	2-Hexanone	12	U
124-48-1	Dibromochloromethane	5.9	U
106-93-4	1,2-Dibromoethane	5.9	U
108-90-7	Chlorobenzene	5.9	U
100-41-4	Ethylbenzene	5.9	U
179601-23-1	m,p-Xylene	5.9	U
95-47-6	o-Xylene	5.9	U
100-42-5	Styrene	5.9	U
75-25-2	Bromoform	5.9	U
98-82-8	Isopropylbenzene	5.9	U
79-34-5	1,1,2,2-Tetrachloroethane	5.9	U
541-73-1	1,3-Dichlorobenzene	5.9	U
106-46-7	1,4-Dichlorobenzene	5.9	U
95-50-1	1,2-Dichlorobenzene	5.9	U
96-12-8	1,2-Dibromo-3-chloropropane	5.9	U
120-82-1	1,2,4-Trichlorobenzene	5.9	U
87-61-6	1,2,3-Trichlorobenzene	5.9	U

1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30Q0

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-01C

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V5N2727.D

Level: (TRACE or LOW/MED) LOW Date Received: 10/28/2011

% Moisture: not dec. 15 Date Analyzed: 11/07/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG Purge Volume: 10.0 (mL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
E96679€ [1]	Total Alkanes	N/A		

[1] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Q0

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-01A

Sample wt/vol: 30.3 (g/mL) G Lab File ID: S2H5250.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 15 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup:(Y/N) Y pH: 8.2 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
100-52-7	Benzaldehyde	200	U
108-95-2	Phenol	200	U
111-44-4	Bis(2-chloroethyl)ether	200	U
95-57-8	2-Chlorophenol	200	U
95-48-7	2-Methylphenol	200	U
108-60-1	2,2´-Oxybis(1-chloropropane)	200	U
98-86-2	Acetophenone	200	U
106-44-5	4-Methylphenol	200	U
621-64-7	N-Nitroso-di-n-propylamine	200	U
67-72-1	Hexachloroethane	200	U
98-95-3	Nitrobenzene	200	U
78-59-1	Isophorone	200	U
88-75-5	2-Nitrophenol	200	U
105-67-9	2,4-Dimethylphenol	200	U
111-91-1	Bis(2-chloroethoxy)methane	200	U
120-83-2	2,4-Dichlorophenol	200	U
91-20-3	Naphthalene	200	U
106-47-8	4-Chloroaniline	200	U
87-68-3	Hexachlorobutadiene	200	U
105-60-2	Caprolactam	200	U
59-50-7	4-Chloro-3-methylphenol	200	U
91-57-6	2-Methylnaphthalene	200	U
77-47-4	Hexachlorocyclopentadiene	200	U
88-06-2	2,4,6-Trichlorophenol	200	U
95-95-4	2,4,5-Trichlorophenol	200	U
92-52-4	1,1´-Biphenyl	200	U
91-58-7	2-Chloronaphthalene	200	U
88-74-4	2-Nitroaniline	380	U
131-11-3	Dimethylphthalate	200	U
606-20-2	2,6-Dinitrotoluene	200	U
208-96-8	Acenaphthylene	200	U
99-09-2	3-Nitroaniline	380	U
83-32-9	Acenaphthene	200	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Q0

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-01A

Sample wt/vol: 30.3 (g/mL) G Lab File ID: S2H5250.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 15 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup:(Y/N) Y pH: 8.2 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
51-28-5	2,4-Dinitrophenol	380	U
100-02-7	4-Nitrophenol	380	U
132-64-9	Dibenzofuran	200	U
121-14-2	2,4-Dinitrotoluene	200	U
84-66-2	Diethylphthalate	200	U
86-73-7	Fluorene	200	U
7005-72-3	4-Chlorophenyl-phenylether	200	U
100-01-6	4-Nitroaniline	380	U
534-52-1	4,6-Dinitro-2-methylphenol	380	U
86-30-6	N-Nitrosodiphenylamine (1)	200	U
95-94-3	1,2,4,5-Tetrachlorobenzene	200	U
101-55-3	4-Bromophenyl-phenylether	200	U
118-74-1	Hexachlorobenzene	200	U
1912-24-9	Atrazine	200	U
87-86-5	Pentachlorophenol	380	U
85-01-8	Phenanthrene	200	U
120-12-7	Anthracene	200	U
86-74-8	Carbazole	200	U
84-74-2	Di-n-butylphthalate	61	J
206-44-0	Fluoranthene	200	U
129-00-0	Pyrene	200	U
85-68-7	Butylbenzylphthalate	200	U
91-94-1	3,3´-Dichlorobenzidine	200	U
56-55-3	Benzo(a)anthracene	200	U
218-01-9	Chrysene	200	U
117-81-7	Bis(2-ethylhexyl)phthalate	81	J
117-84-0	Di-n-octylphthalate	200	U
205-99-2	Benzo(b)fluoranthene	200	U
207-08-9	Benzo(k)fluoranthene	200	U
50-32-8	Benzo(a)pyrene	200	U
193-39-5	Indeno(1,2,3-cd)pyrene	200	U
53-70-3	Dibenzo(a,h)anthracene	200	U
191-24-2	Benzo(g,h,i)perylene	200	U
58-90-2	2,3,4,6-Tetrachlorophenol	200	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30Q0

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-01A

Sample wt/vol: 30.3 (g/mL) G Lab File ID: S2H5250.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 15 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup: (Y/N) Y pH: 8.2 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	2.986	200	J
02	5469-16-9	2(3H)-Furanone, dihydro-4-hy	4.488	300	BNJ
03		Unknown-02	4.692	210	J
04		Unknown-03	5.206	260	J
05		Unknown-04	5.303	87	J
06		Unknown-05	7.598	84	J
07		Unknown-06	7.909	110	J
08		Unknown-07	9.206	95	J
09	506-52-5	1-Hexacosanol	9.581	90	NJ
10	301-02-0	9-Octadecenamide, (Z)-	10.429	300	NJ
11		Unknown-08	10.772	400	J
12		Unknown-09	11.480	180	J
	E96679€ [2]	Total Alkanes	N/A		

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Q1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-02A

Sample wt/vol: 30.3 (g/mL) G Lab File ID: S2H5253.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 22 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup:(Y/N) Y pH: 7.5 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
100-52-7	Benzaldehyde	220	U
108-95-2	Phenol	220	U
111-44-4	Bis(2-chloroethyl)ether	220	U
95-57-8	2-Chlorophenol	220	U
95-48-7	2-Methylphenol	220	U
108-60-1	2,2´-Oxybis(1-chloropropane)	220	U
98-86-2	Acetophenone	220	U
106-44-5	4-Methylphenol	220	U
621-64-7	N-Nitroso-di-n-propylamine	220	U
67-72-1	Hexachloroethane	220	U
98-95-3	Nitrobenzene	220	U
78-59-1	Isophorone	220	U
88-75-5	2-Nitrophenol	220	U
105-67-9	2,4-Dimethylphenol	220	U
111-91-1	Bis(2-chloroethoxy)methane	220	U
120-83-2	2,4-Dichlorophenol	220	U
91-20-3	Naphthalene	220	U
106-47-8	4-Chloroaniline	220	U
87-68-3	Hexachlorobutadiene	220	U
105-60-2	Caprolactam	220	U
59-50-7	4-Chloro-3-methylphenol	220	U
91-57-6	2-Methylnaphthalene	220	U
77-47-4	Hexachlorocyclopentadiene	220	U
88-06-2	2,4,6-Trichlorophenol	220	U
95-95-4	2,4,5-Trichlorophenol	220	U
92-52-4	1,1´-Biphenyl	220	U
91-58-7	2-Chloronaphthalene	220	U
88-74-4	2-Nitroaniline	420	U
131-11-3	Dimethylphthalate	220	U
606-20-2	2,6-Dinitrotoluene	220	U
208-96-8	Acenaphthylene	220	U
99-09-2	3-Nitroaniline	420	U
83-32-9	Acenaphthene	220	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Q1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-02A

Sample wt/vol: 30.3 (g/mL) G Lab File ID: S2H5253.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 22 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup:(Y/N) Y pH: 7.5 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
51-28-5	2,4-Dinitrophenol	420	U
100-02-7	4-Nitrophenol	420	U
132-64-9	Dibenzofuran	220	U
121-14-2	2,4-Dinitrotoluene	220	U
84-66-2	Diethylphthalate	220	U
86-73-7	Fluorene	220	U
7005-72-3	4-Chlorophenyl-phenylether	220	U
100-01-6	4-Nitroaniline	420	U
534-52-1	4,6-Dinitro-2-methylphenol	420	U
86-30-6	N-Nitrosodiphenylamine (1)	220	U
95-94-3	1,2,4,5-Tetrachlorobenzene	220	U
101-55-3	4-Bromophenyl-phenylether	220	U
118-74-1	Hexachlorobenzene	220	U
1912-24-9	Atrazine	220	U
87-86-5	Pentachlorophenol	420	U
85-01-8	Phenanthrene	220	U
120-12-7	Anthracene	220	U
86-74-8	Carbazole	220	U
84-74-2	Di-n-butylphthalate	43	J
206-44-0	Fluoranthene	220	U
129-00-0	Pyrene	220	U
85-68-7	Butylbenzylphthalate	220	U
91-94-1	3,3´-Dichlorobenzidine	220	U
56-55-3	Benzo(a)anthracene	220	U
218-01-9	Chrysene	220	U
117-81-7	Bis(2-ethylhexyl)phthalate	220	U
117-84-0	Di-n-octylphthalate	220	U
205-99-2	Benzo(b)fluoranthene	220	U
207-08-9	Benzo(k)fluoranthene	220	U
50-32-8	Benzo(a)pyrene	220	U
193-39-5	Indeno(1,2,3-cd)pyrene	220	U
53-70-3	Dibenzo(a,h)anthracene	220	U
191-24-2	Benzo(g,h,i)perylene	220	U
58-90-2	2,3,4,6-Tetrachlorophenol	220	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30Q1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-02A

Sample wt/vol: 30.3 (g/mL) G Lab File ID: S2H5253.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 22 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup: (Y/N) Y pH: 7.5 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	2.986	240	J
02		Unknown-02	3.147	96	J
03	5469-16-9	2(3H)-Furanone, dihydro-4-hy	4.487	410	BNJ
04		Unknown-03	4.680	290	J
05		Unknown-04	5.216	350	J
06		Unknown-05	5.302	120	J
07		Unknown-06	6.182	180	J
08		Unknown-07	7.597	110	J
09	544-63-8	Tetradecanoic acid	7.908	190	NJ
10	301-02-0	9-Octadecenamide, (Z)-	9.184	150	NJ
11		Unknown-08	9.559	120	J
12		Unknown-09	10.139	110	J
13	301-02-0	9-Octadecenamide, (Z)-	10.374	550	NJ
14	7683-64-9	Squalene	10.471	140	NJ
15		Unknown-10	10.707	400	J
	E96679€ [2]	Total Alkanes	N/A		

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Q2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-03A

Sample wt/vol: 30.1 (g/mL) G Lab File ID: S2H5254.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 16 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup:(Y/N) Y pH: 7.7 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
100-52-7	Benzaldehyde	200	U
108-95-2	Phenol	200	U
111-44-4	Bis(2-chloroethyl)ether	200	U
95-57-8	2-Chlorophenol	200	U
95-48-7	2-Methylphenol	200	U
108-60-1	2,2´-Oxybis(1-chloropropane)	200	U
98-86-2	Acetophenone	200	U
106-44-5	4-Methylphenol	200	U
621-64-7	N-Nitroso-di-n-propylamine	200	U
67-72-1	Hexachloroethane	200	U
98-95-3	Nitrobenzene	200	U
78-59-1	Isophorone	200	U
88-75-5	2-Nitrophenol	200	U
105-67-9	2,4-Dimethylphenol	200	U
111-91-1	Bis(2-chloroethoxy)methane	200	U
120-83-2	2,4-Dichlorophenol	200	U
91-20-3	Naphthalene	200	U
106-47-8	4-Chloroaniline	200	U
87-68-3	Hexachlorobutadiene	200	U
105-60-2	Caprolactam	200	U
59-50-7	4-Chloro-3-methylphenol	200	U
91-57-6	2-Methylnaphthalene	200	U
77-47-4	Hexachlorocyclopentadiene	200	U
88-06-2	2,4,6-Trichlorophenol	200	U
95-95-4	2,4,5-Trichlorophenol	200	U
92-52-4	1,1´-Biphenyl	200	U
91-58-7	2-Chloronaphthalene	200	U
88-74-4	2-Nitroaniline	390	U
131-11-3	Dimethylphthalate	200	U
606-20-2	2,6-Dinitrotoluene	200	U
208-96-8	Acenaphthylene	200	U
99-09-2	3-Nitroaniline	390	U
83-32-9	Acenaphthene	200	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Q2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-03A

Sample wt/vol: 30.1 (g/mL) G Lab File ID: S2H5254.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 16 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup:(Y/N) Y pH: 7.7 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
51-28-5	2,4-Dinitrophenol	390	U
100-02-7	4-Nitrophenol	390	U
132-64-9	Dibenzofuran	200	U
121-14-2	2,4-Dinitrotoluene	200	U
84-66-2	Diethylphthalate	200	U
86-73-7	Fluorene	200	U
7005-72-3	4-Chlorophenyl-phenylether	200	U
100-01-6	4-Nitroaniline	390	U
534-52-1	4,6-Dinitro-2-methylphenol	390	U
86-30-6	N-Nitrosodiphenylamine (1)	200	U
95-94-3	1,2,4,5-Tetrachlorobenzene	200	U
101-55-3	4-Bromophenyl-phenylether	200	U
118-74-1	Hexachlorobenzene	200	U
1912-24-9	Atrazine	200	U
87-86-5	Pentachlorophenol	390	U
85-01-8	Phenanthrene	200	U
120-12-7	Anthracene	200	U
86-74-8	Carbazole	200	U
84-74-2	Di-n-butylphthalate	45	J
206-44-0	Fluoranthene	200	U
129-00-0	Pyrene	200	U
85-68-7	Butylbenzylphthalate	200	U
91-94-1	3,3´-Dichlorobenzidine	200	U
56-55-3	Benzo(a)anthracene	200	U
218-01-9	Chrysene	200	U
117-81-7	Bis(2-ethylhexyl)phthalate	200	U
117-84-0	Di-n-octylphthalate	200	U
205-99-2	Benzo(b)fluoranthene	200	U
207-08-9	Benzo(k)fluoranthene	200	U
50-32-8	Benzo(a)pyrene	200	U
193-39-5	Indeno(1,2,3-cd)pyrene	200	U
53-70-3	Dibenzo(a,h)anthracene	200	U
191-24-2	Benzo(g,h,i)perylene	200	U
58-90-2	2,3,4,6-Tetrachlorophenol	200	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30Q2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-03A

Sample wt/vol: 30.1 (g/mL) G Lab File ID: S2H5254.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 16 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup: (Y/N) Y pH: 7.7 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	2.986	160	J
02	5469-16-9	2(3H)-Furanone, dihydro-4-hy	4.488	370	BNJ
03		Unknown-02	4.681	250	J
04		Unknown-03	5.217	350	J
05		Unknown-04	5.303	180	J
06		Unknown-05	7.597	100	J
07		Unknown-06	7.908	150	J
08	301-02-0	9-Octadecenamide, (Z)-	9.184	110	NJ
09		Unknown-07	10.353	390	J
10	55282-11-6	Heneicosane, 11-(1-ethylprop	10.686	260	NJ
	E96679[2]	Total Alkanes	N/A	100	J

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Q3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-04A

Sample wt/vol: 30.5 (g/mL) G Lab File ID: S2H5292.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 19 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/14/2011

GPC Cleanup:(Y/N) Y pH: 7.3 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
100-52-7	Benzaldehyde	210	U
108-95-2	Phenol	210	U
111-44-4	Bis(2-chloroethyl)ether	210	U
95-57-8	2-Chlorophenol	210	U
95-48-7	2-Methylphenol	210	U
108-60-1	2,2´-Oxybis(1-chloropropane)	210	U
98-86-2	Acetophenone	210	U
106-44-5	4-Methylphenol	210	U
621-64-7	N-Nitroso-di-n-propylamine	210	U
67-72-1	Hexachloroethane	210	U
98-95-3	Nitrobenzene	210	U
78-59-1	Isophorone	210	U
88-75-5	2-Nitrophenol	210	U
105-67-9	2,4-Dimethylphenol	210	U
111-91-1	Bis(2-chloroethoxy)methane	210	U
120-83-2	2,4-Dichlorophenol	210	U
91-20-3	Naphthalene	210	U
106-47-8	4-Chloroaniline	210	U
87-68-3	Hexachlorobutadiene	210	U
105-60-2	Caprolactam	210	U
59-50-7	4-Chloro-3-methylphenol	210	U
91-57-6	2-Methylnaphthalene	210	U
77-47-4	Hexachlorocyclopentadiene	210	U
88-06-2	2,4,6-Trichlorophenol	210	U
95-95-4	2,4,5-Trichlorophenol	210	U
92-52-4	1,1´-Biphenyl	210	U
91-58-7	2-Chloronaphthalene	210	U
88-74-4	2-Nitroaniline	400	U
131-11-3	Dimethylphthalate	210	U
606-20-2	2,6-Dinitrotoluene	210	U
208-96-8	Acenaphthylene	210	U
99-09-2	3-Nitroaniline	400	U
83-32-9	Acenaphthene	210	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Q3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-04A

Sample wt/vol: 30.5 (g/mL) G Lab File ID: S2H5292.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 19 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/14/2011

GPC Cleanup:(Y/N) Y pH: 7.3 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
51-28-5	2,4-Dinitrophenol	400	U
100-02-7	4-Nitrophenol	400	U
132-64-9	Dibenzofuran	210	U
121-14-2	2,4-Dinitrotoluene	210	U
84-66-2	Diethylphthalate	210	U
86-73-7	Fluorene	210	U
7005-72-3	4-Chlorophenyl-phenylether	210	U
100-01-6	4-Nitroaniline	400	U
534-52-1	4,6-Dinitro-2-methylphenol	400	U
86-30-6	N-Nitrosodiphenylamine (1)	210	U
95-94-3	1,2,4,5-Tetrachlorobenzene	210	U
101-55-3	4-Bromophenyl-phenylether	210	U
118-74-1	Hexachlorobenzene	210	U
1912-24-9	Atrazine	210	U
87-86-5	Pentachlorophenol	400	U
85-01-8	Phenanthrene	210	U
120-12-7	Anthracene	210	U
86-74-8	Carbazole	210	U
84-74-2	Di-n-butylphthalate	45	J
206-44-0	Fluoranthene	210	U
129-00-0	Pyrene	210	U
85-68-7	Butylbenzylphthalate	210	U
91-94-1	3,3´-Dichlorobenzidine	210	U
56-55-3	Benzo(a)anthracene	210	U
218-01-9	Chrysene	210	U
117-81-7	Bis(2-ethylhexyl)phthalate	210	U
117-84-0	Di-n-octylphthalate	210	U
205-99-2	Benzo(b)fluoranthene	210	U
207-08-9	Benzo(k)fluoranthene	210	U
50-32-8	Benzo(a)pyrene	210	U
193-39-5	Indeno(1,2,3-cd)pyrene	210	U
53-70-3	Dibenzo(a,h)anthracene	210	U
191-24-2	Benzo(g,h,i)perylene	210	U
58-90-2	2,3,4,6-Tetrachlorophenol	210	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30Q3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-04A

Sample wt/vol: 30.5 (g/mL) G Lab File ID: S2H5292.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 19 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/14/2011

GPC Cleanup: (Y/N) Y pH: 7.3 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	2.915	110	J
02		Unknown-02	3.076	100	J
03	5469-16-9	2(3H)-Furanone, dihydro-4-hy	4.416	370	BNJ
04		Unknown-03	4.620	270	J
05		Unknown-04	4.974	87	J
06		Unknown-05	5.145	350	J
07		Unknown-06	5.231	110	J
08		Unknown-07	6.100	420	J
09		Unknown-08	7.526	100	J
10	57-10-3	n-Hexadecanoic acid	7.837	180	NJ
11		Unknown-09	9.124	110	J
12		Unknown-10	9.499	110	J
13		Unknown-11	10.314	350	J
14		Unknown-12	10.410	130	J
15		Unknown-13	10.646	410	J
16		Unknown-14	11.322	200	J
	E96679[2]	Total Alkanes	N/A		

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Q4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-05A

Sample wt/vol: 30.1 (g/mL) G Lab File ID: S2H5256.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 16 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup:(Y/N) Y pH: 8.9 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
100-52-7	Benzaldehyde	200	U
108-95-2	Phenol	200	U
111-44-4	Bis(2-chloroethyl)ether	200	U
95-57-8	2-Chlorophenol	200	U
95-48-7	2-Methylphenol	200	U
108-60-1	2,2´-Oxybis(1-chloropropane)	200	U
98-86-2	Acetophenone	200	U
106-44-5	4-Methylphenol	200	U
621-64-7	N-Nitroso-di-n-propylamine	200	U
67-72-1	Hexachloroethane	200	U
98-95-3	Nitrobenzene	200	U
78-59-1	Isophorone	200	U
88-75-5	2-Nitrophenol	200	U
105-67-9	2,4-Dimethylphenol	200	U
111-91-1	Bis(2-chloroethoxy)methane	200	U
120-83-2	2,4-Dichlorophenol	200	U
91-20-3	Naphthalene	50	J
106-47-8	4-Chloroaniline	200	U
87-68-3	Hexachlorobutadiene	200	U
105-60-2	Caprolactam	200	U
59-50-7	4-Chloro-3-methylphenol	200	U
91-57-6	2-Methylnaphthalene	200	U
77-47-4	Hexachlorocyclopentadiene	200	U
88-06-2	2,4,6-Trichlorophenol	200	U
95-95-4	2,4,5-Trichlorophenol	200	U
92-52-4	1,1´-Biphenyl	200	U
91-58-7	2-Chloronaphthalene	200	U
88-74-4	2-Nitroaniline	390	U
131-11-3	Dimethylphthalate	200	U
606-20-2	2,6-Dinitrotoluene	200	U
208-96-8	Acenaphthylene	200	U
99-09-2	3-Nitroaniline	390	U
83-32-9	Acenaphthene	200	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Q4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-05A

Sample wt/vol: 30.1 (g/mL) G Lab File ID: S2H5256.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 16 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup:(Y/N) Y pH: 8.9 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
51-28-5	2,4-Dinitrophenol	390	U
100-02-7	4-Nitrophenol	390	U
132-64-9	Dibenzofuran	200	U
121-14-2	2,4-Dinitrotoluene	200	U
84-66-2	Diethylphthalate	200	U
86-73-7	Fluorene	200	U
7005-72-3	4-Chlorophenyl-phenylether	200	U
100-01-6	4-Nitroaniline	390	U
534-52-1	4,6-Dinitro-2-methylphenol	390	U
86-30-6	N-Nitrosodiphenylamine (1)	200	U
95-94-3	1,2,4,5-Tetrachlorobenzene	200	U
101-55-3	4-Bromophenyl-phenylether	200	U
118-74-1	Hexachlorobenzene	200	U
1912-24-9	Atrazine	200	U
87-86-5	Pentachlorophenol	390	U
85-01-8	Phenanthrene	200	U
120-12-7	Anthracene	200	U
86-74-8	Carbazole	200	U
84-74-2	Di-n-butylphthalate	200	U
206-44-0	Fluoranthene	200	U
129-00-0	Pyrene	200	U
85-68-7	Butylbenzylphthalate	200	U
91-94-1	3,3´-Dichlorobenzidine	200	U
56-55-3	Benzo(a)anthracene	200	U
218-01-9	Chrysene	200	U
117-81-7	Bis(2-ethylhexyl)phthalate	200	U
117-84-0	Di-n-octylphthalate	200	U
205-99-2	Benzo(b)fluoranthene	200	U
207-08-9	Benzo(k)fluoranthene	200	U
50-32-8	Benzo(a)pyrene	200	U
193-39-5	Indeno(1,2,3-cd)pyrene	200	U
53-70-3	Dibenzo(a,h)anthracene	200	U
191-24-2	Benzo(g,h,i)perylene	200	U
58-90-2	2,3,4,6-Tetrachlorophenol	200	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30Q4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-05A

Sample wt/vol: 30.1 (g/mL) G Lab File ID: S2H5256.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 16 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup: (Y/N) Y pH: 8.9 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	2.985	140	J
02	5469-16-9	2(3H)-Furanone, dihydro-4-hy	4.487	270	BNJ
03	1000194-17-0	5-Hydroxymethyldihydrofuran-	4.690	200	NJ
04		Unknown-02	5.205	250	J
05		Unknown-03	5.302	100	J
06		Unknown-04	7.596	83	J
07	1002-84-2	Pentadecanoic acid	7.907	190	NJ
08		Unknown-05	9.183	190	J
09		Unknown-06	9.548	120	J
10		Unknown-07	10.342	330	J
11		Unknown-08	10.438	140	J
12		Unknown-09	10.674	230	J
	E96679[2]	Total Alkanes	N/A		

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Q6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-06A

Sample wt/vol: 30.3 (g/mL) G Lab File ID: S2H5257.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 48 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup:(Y/N) Y pH: 9.1 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
100-52-7	Benzaldehyde	320	U
108-95-2	Phenol	320	U
111-44-4	Bis(2-chloroethyl)ether	320	U
95-57-8	2-Chlorophenol	320	U
95-48-7	2-Methylphenol	320	U
108-60-1	2,2´-Oxybis(1-chloropropane)	320	U
98-86-2	Acetophenone	320	U
106-44-5	4-Methylphenol	320	U
621-64-7	N-Nitroso-di-n-propylamine	320	U
67-72-1	Hexachloroethane	320	U
98-95-3	Nitrobenzene	320	U
78-59-1	Isophorone	320	U
88-75-5	2-Nitrophenol	320	U
105-67-9	2,4-Dimethylphenol	320	U
111-91-1	Bis(2-chloroethoxy)methane	320	U
120-83-2	2,4-Dichlorophenol	320	U
91-20-3	Naphthalene	210	J
106-47-8	4-Chloroaniline	320	U
87-68-3	Hexachlorobutadiene	320	U
105-60-2	Caprolactam	320	U
59-50-7	4-Chloro-3-methylphenol	320	U
91-57-6	2-Methylnaphthalene	320	U
77-47-4	Hexachlorocyclopentadiene	320	U
88-06-2	2,4,6-Trichlorophenol	320	U
95-95-4	2,4,5-Trichlorophenol	320	U
92-52-4	1,1´-Biphenyl	320	U
91-58-7	2-Chloronaphthalene	320	U
88-74-4	2-Nitroaniline	630	U
131-11-3	Dimethylphthalate	320	U
606-20-2	2,6-Dinitrotoluene	320	U
208-96-8	Acenaphthylene	320	U
99-09-2	3-Nitroaniline	630	U
83-32-9	Acenaphthene	320	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Q6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-06A

Sample wt/vol: 30.3 (g/mL) G Lab File ID: S2H5257.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 48 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup:(Y/N) Y pH: 9.1 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
51-28-5	2,4-Dinitrophenol	630	U
100-02-7	4-Nitrophenol	630	U
132-64-9	Dibenzofuran	320	U
121-14-2	2,4-Dinitrotoluene	320	U
84-66-2	Diethylphthalate	320	U
86-73-7	Fluorene	320	U
7005-72-3	4-Chlorophenyl-phenylether	320	U
100-01-6	4-Nitroaniline	630	U
534-52-1	4,6-Dinitro-2-methylphenol	630	U
86-30-6	N-Nitrosodiphenylamine (1)	320	U
95-94-3	1,2,4,5-Tetrachlorobenzene	320	U
101-55-3	4-Bromophenyl-phenylether	320	U
118-74-1	Hexachlorobenzene	320	U
1912-24-9	Atrazine	320	U
87-86-5	Pentachlorophenol	630	U
85-01-8	Phenanthrene	320	U
120-12-7	Anthracene	320	U
86-74-8	Carbazole	320	U
84-74-2	Di-n-butylphthalate	320	U
206-44-0	Fluoranthene	320	U
129-00-0	Pyrene	320	U
85-68-7	Butylbenzylphthalate	320	U
91-94-1	3,3´-Dichlorobenzidine	320	U
56-55-3	Benzo(a)anthracene	320	U
218-01-9	Chrysene	320	U
117-81-7	Bis(2-ethylhexyl)phthalate	320	U
117-84-0	Di-n-octylphthalate	320	U
205-99-2	Benzo(b)fluoranthene	320	U
207-08-9	Benzo(k)fluoranthene	320	U
50-32-8	Benzo(a)pyrene	320	U
193-39-5	Indeno(1,2,3-cd)pyrene	320	U
53-70-3	Dibenzo(a,h)anthracene	320	U
191-24-2	Benzo(g,h,i)perylene	320	U
58-90-2	2,3,4,6-Tetrachlorophenol	320	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30Q6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-06A

Sample wt/vol: 30.3 (g/mL) G Lab File ID: S2H5257.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 48 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup: (Y/N) Y pH: 9.1 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	3.114	140	J
02	3338-55-4	1,3,6-Octatriene, 3,7-dimeth	3.661	250	NJ
03	28634-89-1	Bicyclo[3.1.0]hex-2-ene, 4-m	3.811	170	NJ
04		Unknown-02	4.486	280	J
05		Unknown-03	4.679	300	J
06		Unknown-04	6.170	150	J
07		Unknown-05	6.427	160	J
08		Unknown-06	7.854	190	J
09		Unknown-07	7.907	970	J
10		Unknown-08	8.036	480	J
11		Unknown-09	8.207	270	J
12		Unknown-10	8.358	770	J
13		Unknown-11	8.465	880	J
14		Unknown-12	8.497	1400	J
15		Unknown-13	8.647	1000	J
16		Unknown-14	8.744	3300	J
17		Unknown-15	8.862	690	J
18		Unknown-16	8.926	2000	J
19	112-92-5	1-Octadecanol	8.958	710	NJ
20		Unknown-17	9.012	4100	J
21		Unknown-18	9.194	3300	J
22		Unknown-19	9.548	4400	J
23		Unknown-20	10.127	3800	J
24		Unknown-21	10.363	570	J
25		Unknown-22	11.489	960	J
26	1000214-17-4	5-Cholestene-3-ol, 24-methyl	12.218	2200	NJ
27		Unknown-23	12.615	980	J
28	83-47-6	.gamma.-Sitosterol	12.701	15000	NJ
29		Unknown-24	12.786	3500	J
	E96679[2]	Total Alkanes	N/A	980	J

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Q8

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-07A

Sample wt/vol: 30.0 (g/mL) G Lab File ID: S2H5258.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 70 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup:(Y/N) Y pH: 9.1 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
100-52-7	Benzaldehyde	120	J
108-95-2	Phenol	570	U
111-44-4	Bis(2-chloroethyl)ether	570	U
95-57-8	2-Chlorophenol	570	U
95-48-7	2-Methylphenol	570	U
108-60-1	2,2´-Oxybis(1-chloropropane)	570	U
98-86-2	Acetophenone	570	U
106-44-5	4-Methylphenol	570	U
621-64-7	N-Nitroso-di-n-propylamine	570	U
67-72-1	Hexachloroethane	570	U
98-95-3	Nitrobenzene	570	U
78-59-1	Isophorone	570	U
88-75-5	2-Nitrophenol	570	U
105-67-9	2,4-Dimethylphenol	570	U
111-91-1	Bis(2-chloroethoxy)methane	570	U
120-83-2	2,4-Dichlorophenol	570	U
91-20-3	Naphthalene	200	J
106-47-8	4-Chloroaniline	570	U
87-68-3	Hexachlorobutadiene	570	U
105-60-2	Caprolactam	570	U
59-50-7	4-Chloro-3-methylphenol	570	U
91-57-6	2-Methylnaphthalene	570	U
77-47-4	Hexachlorocyclopentadiene	570	U
88-06-2	2,4,6-Trichlorophenol	570	U
95-95-4	2,4,5-Trichlorophenol	570	U
92-52-4	1,1´-Biphenyl	570	U
91-58-7	2-Chloronaphthalene	570	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	570	U
606-20-2	2,6-Dinitrotoluene	570	U
208-96-8	Acenaphthylene	570	U
99-09-2	3-Nitroaniline	1100	U
83-32-9	Acenaphthene	570	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Q8

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-07A

Sample wt/vol: 30.0 (g/mL) G Lab File ID: S2H5258.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 70 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup:(Y/N) Y pH: 9.1 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
51-28-5	2,4-Dinitrophenol	1100	U
100-02-7	4-Nitrophenol	1100	U
132-64-9	Dibenzofuran	570	U
121-14-2	2,4-Dinitrotoluene	570	U
84-66-2	Diethylphthalate	570	U
86-73-7	Fluorene	570	U
7005-72-3	4-Chlorophenyl-phenylether	570	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	N-Nitrosodiphenylamine (1)	570	U
95-94-3	1,2,4,5-Tetrachlorobenzene	570	U
101-55-3	4-Bromophenyl-phenylether	570	U
118-74-1	Hexachlorobenzene	570	U
1912-24-9	Atrazine	570	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	570	U
120-12-7	Anthracene	570	U
86-74-8	Carbazole	570	U
84-74-2	Di-n-butylphthalate	570	U
206-44-0	Fluoranthene	570	U
129-00-0	Pyrene	570	U
85-68-7	Butylbenzylphthalate	570	U
91-94-1	3,3´-Dichlorobenzidine	570	U
56-55-3	Benzo(a)anthracene	570	U
218-01-9	Chrysene	570	U
117-81-7	Bis(2-ethylhexyl)phthalate	570	U
117-84-0	Di-n-octylphthalate	570	U
205-99-2	Benzo(b)fluoranthene	570	U
207-08-9	Benzo(k)fluoranthene	570	U
50-32-8	Benzo(a)pyrene	570	U
193-39-5	Indeno(1,2,3-cd)pyrene	570	U
53-70-3	Dibenzo(a,h)anthracene	570	U
191-24-2	Benzo(g,h,i)perylene	570	U
58-90-2	2,3,4,6-Tetrachlorophenol	570	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30Q8

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-07A

Sample wt/vol: 30.0 (g/mL) G Lab File ID: S2H5258.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 70 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup: (Y/N) Y pH: 9.1 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	2.997	410	J
02		Unknown-02	3.158	280	J
03	5469-16-9	2(3H)-Furanone, dihydro-4-hy	4.488	730	BNJ
04		Unknown-03	4.691	500	J
05		Unknown-04	5.206	580	J
06		Unknown-05	7.598	230	J
07	57-10-3	n-Hexadecanoic acid	7.909	610	NJ
08		Unknown-06	9.185	610	J
09	112-84-5	13-Docosenamide, (Z)-	10.354	1100	NJ
	E96679[2]	Total Alkanes	N/A		

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Q9

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-08A

Sample wt/vol: 30.5 (g/mL) G Lab File ID: S2H5259.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 62 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup:(Y/N) Y pH: 8.5 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
100-52-7	Benzaldehyde	440	U
108-95-2	Phenol	440	U
111-44-4	Bis(2-chloroethyl)ether	440	U
95-57-8	2-Chlorophenol	440	U
95-48-7	2-Methylphenol	440	U
108-60-1	2,2´-Oxybis(1-chloropropane)	440	U
98-86-2	Acetophenone	440	U
106-44-5	4-Methylphenol	600	
621-64-7	N-Nitroso-di-n-propylamine	440	U
67-72-1	Hexachloroethane	440	U
98-95-3	Nitrobenzene	440	U
78-59-1	Isophorone	440	U
88-75-5	2-Nitrophenol	440	U
105-67-9	2,4-Dimethylphenol	440	U
111-91-1	Bis(2-chloroethoxy)methane	440	U
120-83-2	2,4-Dichlorophenol	440	U
91-20-3	Naphthalene	110	J
106-47-8	4-Chloroaniline	440	U
87-68-3	Hexachlorobutadiene	440	U
105-60-2	Caprolactam	440	U
59-50-7	4-Chloro-3-methylphenol	440	U
91-57-6	2-Methylnaphthalene	440	U
77-47-4	Hexachlorocyclopentadiene	440	U
88-06-2	2,4,6-Trichlorophenol	440	U
95-95-4	2,4,5-Trichlorophenol	440	U
92-52-4	1,1´-Biphenyl	440	U
91-58-7	2-Chloronaphthalene	440	U
88-74-4	2-Nitroaniline	860	U
131-11-3	Dimethylphthalate	440	U
606-20-2	2,6-Dinitrotoluene	440	U
208-96-8	Acenaphthylene	440	U
99-09-2	3-Nitroaniline	860	U
83-32-9	Acenaphthene	440	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Q9

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-08A

Sample wt/vol: 30.5 (g/mL) G Lab File ID: S2H5259.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 62 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup:(Y/N) Y pH: 8.5 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
51-28-5	2,4-Dinitrophenol	860	U
100-02-7	4-Nitrophenol	860	U
132-64-9	Dibenzofuran	440	U
121-14-2	2,4-Dinitrotoluene	440	U
84-66-2	Diethylphthalate	440	U
86-73-7	Fluorene	440	U
7005-72-3	4-Chlorophenyl-phenylether	440	U
100-01-6	4-Nitroaniline	860	U
534-52-1	4,6-Dinitro-2-methylphenol	860	U
86-30-6	N-Nitrosodiphenylamine (1)	440	U
95-94-3	1,2,4,5-Tetrachlorobenzene	440	U
101-55-3	4-Bromophenyl-phenylether	440	U
118-74-1	Hexachlorobenzene	440	U
1912-24-9	Atrazine	440	U
87-86-5	Pentachlorophenol	860	U
85-01-8	Phenanthrene	120	J
120-12-7	Anthracene	440	U
86-74-8	Carbazole	440	U
84-74-2	Di-n-butylphthalate	740	
206-44-0	Fluoranthene	93	J
129-00-0	Pyrene	110	J
85-68-7	Butylbenzylphthalate	440	U
91-94-1	3,3´-Dichlorobenzidine	440	U
56-55-3	Benzo(a)anthracene	440	U
218-01-9	Chrysene	440	U
117-81-7	Bis(2-ethylhexyl)phthalate	440	U
117-84-0	Di-n-octylphthalate	440	U
205-99-2	Benzo(b)fluoranthene	440	U
207-08-9	Benzo(k)fluoranthene	440	U
50-32-8	Benzo(a)pyrene	440	U
193-39-5	Indeno(1,2,3-cd)pyrene	440	U
53-70-3	Dibenzo(a,h)anthracene	440	U
191-24-2	Benzo(g,h,i)perylene	440	U
58-90-2	2,3,4,6-Tetrachlorophenol	440	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30Q9

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-08A

Sample wt/vol: 30.5 (g/mL) G Lab File ID: S2H5259.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 62 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup: (Y/N) Y pH: 8.5 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	7785-70-8	1R-.alpha.-Pinene	3.128	9100	NJ
02		Unknown-01	3.256	4000	J
03		Unknown-02	3.342	1900	J
04	127-91-3	.beta.-Pinene	3.460	2700	NJ
05	13466-78-9	3-Carene	3.664	64000	NJ
06	99-87-6	Benzene, 1-methyl-4-(1-methy	3.761	48000	NJ
07	464-49-3	Bicyclo[2.2.1]heptan-2-one,	4.543	33000	NJ
08		Unknown-03	4.683	2600	J
09		Unknown-04	5.562	1800	J
10	5989-08-2	Tricyclo[5.4.0.0(2,8)]undec-	5.616	2200	NJ
11		Unknown-05	5.916	8400	J
12	483-75-0	Naphthalene, 1,2,4a,5,6,8a-h	6.163	3700	NJ
13	31983-22-9	Naphthalene, 1,2,4a,5,6,8a-h	6.259	3800	NJ
14		Unknown-06	6.420	1900	J
15	544-63-8	Tetradecanoic acid	7.213	5300	NJ
16		Unknown-07	8.039	9800	J
17		Unknown-08	8.071	9500	J
18		Unknown-09	8.168	13000	J
19		Unknown-10	8.211	6700	J
20	1000197-14-1	4b,8-Dimethyl-2-isopropylphe	8.243	71000	NJ
21		Unknown-11	8.479	9000	J
22		Unknown-12	8.532	28000	J
23		Unknown-13	8.575	13000	J
24		Unknown-14	8.650	14000	J
25		Unknown-15	9.101	11000	J
26		Unknown-16	9.144	28000	J
27	1000251-96-9	Tetrahydroabietic acid	9.508	50000	NJ
28	474-62-4	Campesterol	12.232	19000	NJ
29		Unknown-17	12.629	7900	J
30	83-47-6	.gamma.-Sitosterol	12.725	68000	NJ
	E96679[2]	Total Alkanes	N/A		

[2]EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30R0

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-09A

Sample wt/vol: 30.2 (g/mL) G Lab File ID: S2H5260.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 74 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup:(Y/N) Y pH: 9.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
100-52-7	Benzaldehyde	650	U
108-95-2	Phenol	650	U
111-44-4	Bis(2-chloroethyl)ether	650	U
95-57-8	2-Chlorophenol	650	U
95-48-7	2-Methylphenol	650	U
108-60-1	2,2´-Oxybis(1-chloropropane)	650	U
98-86-2	Acetophenone	650	U
106-44-5	4-Methylphenol	210	J
621-64-7	N-Nitroso-di-n-propylamine	650	U
67-72-1	Hexachloroethane	650	U
98-95-3	Nitrobenzene	650	U
78-59-1	Isophorone	650	U
88-75-5	2-Nitrophenol	650	U
105-67-9	2,4-Dimethylphenol	650	U
111-91-1	Bis(2-chloroethoxy)methane	650	U
120-83-2	2,4-Dichlorophenol	650	U
91-20-3	Naphthalene	650	U
106-47-8	4-Chloroaniline	650	U
87-68-3	Hexachlorobutadiene	650	U
105-60-2	Caprolactam	650	U
59-50-7	4-Chloro-3-methylphenol	650	U
91-57-6	2-Methylnaphthalene	650	U
77-47-4	Hexachlorocyclopentadiene	650	U
88-06-2	2,4,6-Trichlorophenol	650	U
95-95-4	2,4,5-Trichlorophenol	650	U
92-52-4	1,1´-Biphenyl	650	U
91-58-7	2-Chloronaphthalene	650	U
88-74-4	2-Nitroaniline	1300	U
131-11-3	Dimethylphthalate	650	U
606-20-2	2,6-Dinitrotoluene	650	U
208-96-8	Acenaphthylene	650	U
99-09-2	3-Nitroaniline	1300	U
83-32-9	Acenaphthene	650	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30R0

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-09A

Sample wt/vol: 30.2 (g/mL) G Lab File ID: S2H5260.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 74 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup:(Y/N) Y pH: 9.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
51-28-5	2,4-Dinitrophenol	1300	U
100-02-7	4-Nitrophenol	1300	U
132-64-9	Dibenzofuran	650	U
121-14-2	2,4-Dinitrotoluene	650	U
84-66-2	Diethylphthalate	650	U
86-73-7	Fluorene	650	U
7005-72-3	4-Chlorophenyl-phenylether	650	U
100-01-6	4-Nitroaniline	1300	U
534-52-1	4,6-Dinitro-2-methylphenol	1300	U
86-30-6	N-Nitrosodiphenylamine (1)	650	U
95-94-3	1,2,4,5-Tetrachlorobenzene	650	U
101-55-3	4-Bromophenyl-phenylether	650	U
118-74-1	Hexachlorobenzene	650	U
1912-24-9	Atrazine	650	U
87-86-5	Pentachlorophenol	1300	U
85-01-8	Phenanthrene	650	U
120-12-7	Anthracene	650	U
86-74-8	Carbazole	650	U
84-74-2	Di-n-butylphthalate	750	
206-44-0	Fluoranthene	650	U
129-00-0	Pyrene	650	U
85-68-7	Butylbenzylphthalate	650	U
91-94-1	3,3´-Dichlorobenzidine	650	U
56-55-3	Benzo(a)anthracene	650	U
218-01-9	Chrysene	650	U
117-81-7	Bis(2-ethylhexyl)phthalate	650	U
117-84-0	Di-n-octylphthalate	650	U
205-99-2	Benzo(b)fluoranthene	650	U
207-08-9	Benzo(k)fluoranthene	650	U
50-32-8	Benzo(a)pyrene	650	U
193-39-5	Indeno(1,2,3-cd)pyrene	650	U
53-70-3	Dibenzo(a,h)anthracene	650	U
191-24-2	Benzo(g,h,i)perylene	650	U
58-90-2	2,3,4,6-Tetrachlorophenol	650	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30R0

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-09A

Sample wt/vol: 30.2 (g/mL) G Lab File ID: S2H5260.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 74 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup: (Y/N) Y pH: 9.0 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	3.129	750	J
02		Unknown-02	3.257	3900	J
03		Unknown-03	3.472	2100	J
04		Unknown-04	3.557	1900	J
05		Unknown-05	3.600	1200	J
06	68998-21-0	Cyclopropane, 1,1-dimethyl-2	3.665	4900	NJ
07		Unknown-06	3.729	820	J
08		Unknown-07	3.772	190000	J
09		Unknown-08	4.490	1300	J
10	21368-68-3	Bicyclo[2.2.1]heptan-2-one,	4.544	24000	NJ
11		Unknown-09	4.683	1000	J
12	5989-08-2	Tricyclo[5.4.0.0(2,8)]undec-	5.616	2800	NJ
13		Unknown-10	5.691	670	J
14	3856-25-5	Copaene	5.724	1800	NJ
15		Unknown-11	5.852	1400	J
16		Unknown-12	5.917	14000	J
17		Unknown-13	5.949	1000	J
18	13744-15-5	1H-Cyclopenta[1,3]cyclopropa	6.163	5200	NJ
19	31983-22-9	Naphthalene, 1,2,4a,5,6,8a-h	6.260	5600	NJ
20		Unknown-14	8.040	14000	J
21		Unknown-15	8.072	22000	J
22		Unknown-16	8.211	7600	J
23		Unknown-17	8.522	12000	J
24	1000251-96-9	Tetrahydroabietic acid	9.488	16000	NJ
25	1740-19-8	1-Phenanthrenecarboxylic aci	9.520	35000	NJ
26	506-52-5	1-Hexacosanol	9.552	27000	NJ
27		Unknown-18	10.120	13000	J
28	474-62-4	Campesterol	12.211	20000	NJ
29		Unknown-19	12.608	11000	J
30	83-46-5	.beta.-Sitosterol	12.715	84000	NJ
	E96679[2]	Total Alkanes	N/A		

[2]EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30R1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-10A

Sample wt/vol: 30.1 (g/mL) G Lab File ID: S2H5261.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 54 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup:(Y/N) Y pH: 8.5 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
100-52-7	Benzaldehyde	370	U
108-95-2	Phenol	370	U
111-44-4	Bis(2-chloroethyl)ether	370	U
95-57-8	2-Chlorophenol	370	U
95-48-7	2-Methylphenol	370	U
108-60-1	2,2´-Oxybis(1-chloropropane)	370	U
98-86-2	Acetophenone	370	U
106-44-5	4-Methylphenol	790	
621-64-7	N-Nitroso-di-n-propylamine	370	U
67-72-1	Hexachloroethane	370	U
98-95-3	Nitrobenzene	370	U
78-59-1	Isophorone	370	U
88-75-5	2-Nitrophenol	370	U
105-67-9	2,4-Dimethylphenol	370	U
111-91-1	Bis(2-chloroethoxy)methane	370	U
120-83-2	2,4-Dichlorophenol	370	U
91-20-3	Naphthalene	110	J
106-47-8	4-Chloroaniline	370	U
87-68-3	Hexachlorobutadiene	370	U
105-60-2	Caprolactam	370	U
59-50-7	4-Chloro-3-methylphenol	370	U
91-57-6	2-Methylnaphthalene	370	U
77-47-4	Hexachlorocyclopentadiene	370	U
88-06-2	2,4,6-Trichlorophenol	370	U
95-95-4	2,4,5-Trichlorophenol	370	U
92-52-4	1,1´-Biphenyl	370	U
91-58-7	2-Chloronaphthalene	370	U
88-74-4	2-Nitroaniline	720	U
131-11-3	Dimethylphthalate	370	U
606-20-2	2,6-Dinitrotoluene	370	U
208-96-8	Acenaphthylene	77	J
99-09-2	3-Nitroaniline	720	U
83-32-9	Acenaphthene	370	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30R1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-10A

Sample wt/vol: 30.1 (g/mL) G Lab File ID: S2H5261.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 54 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup:(Y/N) Y pH: 8.5 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
51-28-5	2,4-Dinitrophenol	720	U
100-02-7	4-Nitrophenol	720	U
132-64-9	Dibenzofuran	370	U
121-14-2	2,4-Dinitrotoluene	370	U
84-66-2	Diethylphthalate	370	U
86-73-7	Fluorene	370	U
7005-72-3	4-Chlorophenyl-phenylether	370	U
100-01-6	4-Nitroaniline	720	U
534-52-1	4,6-Dinitro-2-methylphenol	720	U
86-30-6	N-Nitrosodiphenylamine (1)	370	U
95-94-3	1,2,4,5-Tetrachlorobenzene	370	U
101-55-3	4-Bromophenyl-phenylether	370	U
118-74-1	Hexachlorobenzene	370	U
1912-24-9	Atrazine	370	U
87-86-5	Pentachlorophenol	720	U
85-01-8	Phenanthrene	230	J
120-12-7	Anthracene	370	U
86-74-8	Carbazole	370	U
84-74-2	Di-n-butylphthalate	1400	
206-44-0	Fluoranthene	120	J
129-00-0	Pyrene	160	J
85-68-7	Butylbenzylphthalate	370	U
91-94-1	3,3´-Dichlorobenzidine	370	U
56-55-3	Benzo(a)anthracene	370	U
218-01-9	Chrysene	370	U
117-81-7	Bis(2-ethylhexyl)phthalate	370	U
117-84-0	Di-n-octylphthalate	370	U
205-99-2	Benzo(b)fluoranthene	370	U
207-08-9	Benzo(k)fluoranthene	370	U
50-32-8	Benzo(a)pyrene	370	U
193-39-5	Indeno(1,2,3-cd)pyrene	370	U
53-70-3	Dibenzo(a,h)anthracene	370	U
191-24-2	Benzo(g,h,i)perylene	370	U
58-90-2	2,3,4,6-Tetrachlorophenol	370	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30R1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-10A

Sample wt/vol: 30.1 (g/mL) G Lab File ID: S2H5261.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 54 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup: (Y/N) Y pH: 8.5 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	7785-70-8	1R-.alpha.-Pinene	3.127	4700	NJ
02		Unknown-01	3.256	1700	J
03		Unknown-02	3.460	2700	J
04	68998-21-0	Cyclopropane, 1,1-dimethyl-2	3.664	11000	NJ
05		Unknown-03	3.771	92000	J
06	138-86-3	Limonene	3.803	2600	NJ
07	1195-79-5	Bicyclo[2.2.1]heptan-2-one,	4.189	1000	NJ
08	464-48-2	Bicyclo[2.2.1]heptan-2-one,	4.554	33000	NJ
09		Unknown-04	4.597	2000	J
10		Unknown-05	4.682	11000	J
11	562-74-3	3-Cyclohexen-1-ol, 4-methyl-	4.715	4700	NJ
12		Unknown-06	4.790	12000	J
13	5989-08-2	Tricyclo[5.4.0.0(2,8)]undec-	5.615	1100	NJ
14		Unknown-07	5.755	800	J
15	3853-83-6	1H-Benzocycloheptene, 2,4a,5	5.916	4600	NJ
16	30021-74-0	Naphthalene, 1,2,3,4,4a,5,6,	6.162	2500	NJ
17	10208-80-7	.alpha.-Muurolene	6.259	2800	NJ
18		Unknown-08	6.430	1100	J
19	544-63-8	Tetradecanoic acid	7.224	5600	NJ
20	57-10-3	n-Hexadecanoic acid	7.964	44000	NJ
21		Unknown-09	8.039	8000	J
22		Unknown-10	8.253	120000	J
23		Unknown-11	8.543	24000	J
24		Unknown-12	8.661	14000	J
25		Unknown-13	9.025	12000	J
26		Unknown-14	9.165	17000	J
27		Unknown-15	9.261	11000	J
28	474-62-4	Campesterol	12.232	12000	NJ
29		Unknown-16	12.629	5000	J
30	83-46-5	.beta.-Sitosterol	12.746	41000	NJ
	E96679[2]	Total Alkanes	N/A	4900	J

[2]EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30S4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-11A

Sample wt/vol: 30.5 (g/mL) G Lab File ID: S2H5262.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 38 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup:(Y/N) Y pH: 7.8 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
100-52-7	Benzaldehyde	270	U
108-95-2	Phenol	270	U
111-44-4	Bis(2-chloroethyl)ether	270	U
95-57-8	2-Chlorophenol	270	U
95-48-7	2-Methylphenol	270	U
108-60-1	2,2´-Oxybis(1-chloropropane)	270	U
98-86-2	Acetophenone	270	U
106-44-5	4-Methylphenol	270	U
621-64-7	N-Nitroso-di-n-propylamine	270	U
67-72-1	Hexachloroethane	270	U
98-95-3	Nitrobenzene	270	U
78-59-1	Isophorone	270	U
88-75-5	2-Nitrophenol	270	U
105-67-9	2,4-Dimethylphenol	270	U
111-91-1	Bis(2-chloroethoxy)methane	270	U
120-83-2	2,4-Dichlorophenol	270	U
91-20-3	Naphthalene	270	U
106-47-8	4-Chloroaniline	270	U
87-68-3	Hexachlorobutadiene	270	U
105-60-2	Caprolactam	270	U
59-50-7	4-Chloro-3-methylphenol	270	U
91-57-6	2-Methylnaphthalene	270	U
77-47-4	Hexachlorocyclopentadiene	270	U
88-06-2	2,4,6-Trichlorophenol	270	U
95-95-4	2,4,5-Trichlorophenol	270	U
92-52-4	1,1´-Biphenyl	270	U
91-58-7	2-Chloronaphthalene	270	U
88-74-4	2-Nitroaniline	520	U
131-11-3	Dimethylphthalate	270	U
606-20-2	2,6-Dinitrotoluene	270	U
208-96-8	Acenaphthylene	270	U
99-09-2	3-Nitroaniline	520	U
83-32-9	Acenaphthene	270	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30S4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-11A

Sample wt/vol: 30.5 (g/mL) G Lab File ID: S2H5262.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 38 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup:(Y/N) Y pH: 7.8 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
51-28-5	2,4-Dinitrophenol	520	U
100-02-7	4-Nitrophenol	520	U
132-64-9	Dibenzofuran	270	U
121-14-2	2,4-Dinitrotoluene	270	U
84-66-2	Diethylphthalate	270	U
86-73-7	Fluorene	270	U
7005-72-3	4-Chlorophenyl-phenylether	270	U
100-01-6	4-Nitroaniline	520	U
534-52-1	4,6-Dinitro-2-methylphenol	520	U
86-30-6	N-Nitrosodiphenylamine (1)	270	U
95-94-3	1,2,4,5-Tetrachlorobenzene	270	U
101-55-3	4-Bromophenyl-phenylether	270	U
118-74-1	Hexachlorobenzene	270	U
1912-24-9	Atrazine	270	U
87-86-5	Pentachlorophenol	520	U
85-01-8	Phenanthrene	270	U
120-12-7	Anthracene	270	U
86-74-8	Carbazole	270	U
84-74-2	Di-n-butylphthalate	76	J
206-44-0	Fluoranthene	270	U
129-00-0	Pyrene	270	U
85-68-7	Butylbenzylphthalate	270	U
91-94-1	3,3´-Dichlorobenzidine	270	U
56-55-3	Benzo(a)anthracene	270	U
218-01-9	Chrysene	270	U
117-81-7	Bis(2-ethylhexyl)phthalate	270	U
117-84-0	Di-n-octylphthalate	270	U
205-99-2	Benzo(b)fluoranthene	270	U
207-08-9	Benzo(k)fluoranthene	270	U
50-32-8	Benzo(a)pyrene	270	U
193-39-5	Indeno(1,2,3-cd)pyrene	270	U
53-70-3	Dibenzo(a,h)anthracene	270	U
191-24-2	Benzo(g,h,i)perylene	270	U
58-90-2	2,3,4,6-Tetrachlorophenol	270	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30S4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-11A

Sample wt/vol: 30.5 (g/mL) G Lab File ID: S2H5262.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 38 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup: (Y/N) Y pH: 7.8 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	2.998	190	J
02	111-90-0	Ethanol, 2-(2-ethoxyethoxy)-	3.556	340	NJ
03	535-77-3	Benzene, 1-methyl-3-(1-methy	3.759	320	NJ
04	555-10-2	.beta.-Phellandrene	3.813	300	NJ
05		Unknown-02	4.488	290	J
06	21368-68-3	Bicyclo[2.2.1]heptan-2-one,	4.542	160	NJ
07		Unknown-03	4.681	300	J
08		Unknown-04	5.207	290	J
09		Unknown-05	5.915	200	J
10		Unknown-06	6.161	180	J
11		Unknown-07	8.038	1500	J
12	1000100-12-3	5,6.beta.-Cyclo-.beta.-homo-	12.242	3200	NJ
13		Unknown-08	12.531	2500	J
14		Unknown-09	12.649	2600	J
15	83-47-6	.gamma.-Sitosterol	12.746	18000	NJ
16		Unknown-10	13.604	4400	J
	E96679([2]	Total Alkanes	N/A	510	J

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30S5

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-12A

Sample wt/vol: 30.4 (g/mL) G Lab File ID: S2H5263.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 14 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup:(Y/N) Y pH: 7.5 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
100-52-7	Benzaldehyde	200	U
108-95-2	Phenol	200	U
111-44-4	Bis(2-chloroethyl)ether	200	U
95-57-8	2-Chlorophenol	200	U
95-48-7	2-Methylphenol	200	U
108-60-1	2,2´-Oxybis(1-chloropropane)	200	U
98-86-2	Acetophenone	200	U
106-44-5	4-Methylphenol	200	U
621-64-7	N-Nitroso-di-n-propylamine	200	U
67-72-1	Hexachloroethane	200	U
98-95-3	Nitrobenzene	200	U
78-59-1	Isophorone	200	U
88-75-5	2-Nitrophenol	200	U
105-67-9	2,4-Dimethylphenol	200	U
111-91-1	Bis(2-chloroethoxy)methane	200	U
120-83-2	2,4-Dichlorophenol	200	U
91-20-3	Naphthalene	200	U
106-47-8	4-Chloroaniline	200	U
87-68-3	Hexachlorobutadiene	200	U
105-60-2	Caprolactam	200	U
59-50-7	4-Chloro-3-methylphenol	200	U
91-57-6	2-Methylnaphthalene	200	U
77-47-4	Hexachlorocyclopentadiene	200	U
88-06-2	2,4,6-Trichlorophenol	200	U
95-95-4	2,4,5-Trichlorophenol	200	U
92-52-4	1,1´-Biphenyl	200	U
91-58-7	2-Chloronaphthalene	200	U
88-74-4	2-Nitroaniline	380	U
131-11-3	Dimethylphthalate	200	U
606-20-2	2,6-Dinitrotoluene	200	U
208-96-8	Acenaphthylene	200	U
99-09-2	3-Nitroaniline	380	U
83-32-9	Acenaphthene	200	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30S5

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-12A

Sample wt/vol: 30.4 (g/mL) G Lab File ID: S2H5263.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 14 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup:(Y/N) Y pH: 7.5 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
51-28-5	2,4-Dinitrophenol	380	U
100-02-7	4-Nitrophenol	380	U
132-64-9	Dibenzofuran	200	U
121-14-2	2,4-Dinitrotoluene	200	U
84-66-2	Diethylphthalate	200	U
86-73-7	Fluorene	200	U
7005-72-3	4-Chlorophenyl-phenylether	200	U
100-01-6	4-Nitroaniline	380	U
534-52-1	4,6-Dinitro-2-methylphenol	380	U
86-30-6	N-Nitrosodiphenylamine (1)	200	U
95-94-3	1,2,4,5-Tetrachlorobenzene	200	U
101-55-3	4-Bromophenyl-phenylether	200	U
118-74-1	Hexachlorobenzene	200	U
1912-24-9	Atrazine	200	U
87-86-5	Pentachlorophenol	380	U
85-01-8	Phenanthrene	200	U
120-12-7	Anthracene	200	U
86-74-8	Carbazole	200	U
84-74-2	Di-n-butylphthalate	200	U
206-44-0	Fluoranthene	200	U
129-00-0	Pyrene	200	U
85-68-7	Butylbenzylphthalate	200	U
91-94-1	3,3´-Dichlorobenzidine	200	U
56-55-3	Benzo(a)anthracene	200	U
218-01-9	Chrysene	200	U
117-81-7	Bis(2-ethylhexyl)phthalate	200	U
117-84-0	Di-n-octylphthalate	200	U
205-99-2	Benzo(b)fluoranthene	200	U
207-08-9	Benzo(k)fluoranthene	200	U
50-32-8	Benzo(a)pyrene	200	U
193-39-5	Indeno(1,2,3-cd)pyrene	200	U
53-70-3	Dibenzo(a,h)anthracene	200	U
191-24-2	Benzo(g,h,i)perylene	200	U
58-90-2	2,3,4,6-Tetrachlorophenol	200	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30S5

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-12A

Sample wt/vol: 30.4 (g/mL) G Lab File ID: S2H5263.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 14 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup: (Y/N) Y pH: 7.5 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	2.996	240	J
02		Unknown-02	3.157	92	J
03		Unknown-03	3.221	77	J
04		Unknown-04	3.811	79	J
05	5469-16-9	2(3H)-Furanone, dihydro-4-hy	4.486	270	BNJ
06		Unknown-05	4.690	210	J
07		Unknown-06	5.216	250	J
08		Unknown-07	5.344	140	J
09	6971-40-0	17-Pentatriacontene	9.569	1200	NJ
10	2136-70-1	Ethanol, 2-(tetradecyloxy)-	10.138	1300	NJ
11	474-62-4	Campesterol	12.250	2200	NJ
12		Unknown-08	12.647	1500	J
13	83-46-5	.beta.-Sitosterol	12.733	11000	NJ
	E96679[2]	Total Alkanes	N/A		

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30S8

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-13A

Sample wt/vol: 30.4 (g/mL) G Lab File ID: S2H5264.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 33 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup:(Y/N) Y pH: 7.3 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
100-52-7	Benzaldehyde	250	U
108-95-2	Phenol	250	U
111-44-4	Bis(2-chloroethyl)ether	250	U
95-57-8	2-Chlorophenol	250	U
95-48-7	2-Methylphenol	250	U
108-60-1	2,2´-Oxybis(1-chloropropane)	250	U
98-86-2	Acetophenone	250	U
106-44-5	4-Methylphenol	250	U
621-64-7	N-Nitroso-di-n-propylamine	250	U
67-72-1	Hexachloroethane	250	U
98-95-3	Nitrobenzene	250	U
78-59-1	Isophorone	250	U
88-75-5	2-Nitrophenol	250	U
105-67-9	2,4-Dimethylphenol	250	U
111-91-1	Bis(2-chloroethoxy)methane	250	U
120-83-2	2,4-Dichlorophenol	250	U
91-20-3	Naphthalene	250	U
106-47-8	4-Chloroaniline	250	U
87-68-3	Hexachlorobutadiene	250	U
105-60-2	Caprolactam	250	U
59-50-7	4-Chloro-3-methylphenol	250	U
91-57-6	2-Methylnaphthalene	250	U
77-47-4	Hexachlorocyclopentadiene	250	U
88-06-2	2,4,6-Trichlorophenol	250	U
95-95-4	2,4,5-Trichlorophenol	250	U
92-52-4	1,1´-Biphenyl	250	U
91-58-7	2-Chloronaphthalene	250	U
88-74-4	2-Nitroaniline	490	U
131-11-3	Dimethylphthalate	250	U
606-20-2	2,6-Dinitrotoluene	250	U
208-96-8	Acenaphthylene	250	U
99-09-2	3-Nitroaniline	490	U
83-32-9	Acenaphthene	250	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30S8

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-13A

Sample wt/vol: 30.4 (g/mL) G Lab File ID: S2H5264.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 33 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup:(Y/N) Y pH: 7.3 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
51-28-5	2,4-Dinitrophenol	490	U
100-02-7	4-Nitrophenol	490	U
132-64-9	Dibenzofuran	250	U
121-14-2	2,4-Dinitrotoluene	250	U
84-66-2	Diethylphthalate	250	U
86-73-7	Fluorene	250	U
7005-72-3	4-Chlorophenyl-phenylether	250	U
100-01-6	4-Nitroaniline	490	U
534-52-1	4,6-Dinitro-2-methylphenol	490	U
86-30-6	N-Nitrosodiphenylamine (1)	250	U
95-94-3	1,2,4,5-Tetrachlorobenzene	250	U
101-55-3	4-Bromophenyl-phenylether	250	U
118-74-1	Hexachlorobenzene	250	U
1912-24-9	Atrazine	250	U
87-86-5	Pentachlorophenol	490	U
85-01-8	Phenanthrene	250	U
120-12-7	Anthracene	250	U
86-74-8	Carbazole	250	U
84-74-2	Di-n-butylphthalate	250	U
206-44-0	Fluoranthene	250	U
129-00-0	Pyrene	250	U
85-68-7	Butylbenzylphthalate	250	U
91-94-1	3,3´-Dichlorobenzidine	250	U
56-55-3	Benzo(a)anthracene	250	U
218-01-9	Chrysene	250	U
117-81-7	Bis(2-ethylhexyl)phthalate	250	U
117-84-0	Di-n-octylphthalate	250	U
205-99-2	Benzo(b)fluoranthene	250	U
207-08-9	Benzo(k)fluoranthene	250	U
50-32-8	Benzo(a)pyrene	250	U
193-39-5	Indeno(1,2,3-cd)pyrene	250	U
53-70-3	Dibenzo(a,h)anthracene	250	U
191-24-2	Benzo(g,h,i)perylene	250	U
58-90-2	2,3,4,6-Tetrachlorophenol	250	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30S8

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-13A

Sample wt/vol: 30.4 (g/mL) G Lab File ID: S2H5264.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 33 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup: (Y/N) Y pH: 7.3 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	2.997	110	J
02		Unknown-02	3.158	110	J
03	5469-16-9	2(3H)-Furanone, dihydro-4-hy	4.487	320	BNJ
04		Unknown-03	4.691	240	J
05		Unknown-04	5.206	330	J
06		Unknown-05	5.335	160	J
07	57-10-3	n-Hexadecanoic acid	7.908	260	NJ
08		Unknown-06	9.216	280	J
09	1599-67-3	1-Docosene	9.603	330	NJ
10		Unknown-07	10.203	280	J
11		Unknown-08	10.460	390	J
	E96679[2]	Total Alkanes	N/A		

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30S9

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-14A

Sample wt/vol: 30.5 (g/mL) G Lab File ID: S2H5265.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 34 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup:(Y/N) Y pH: 7.3 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
100-52-7	Benzaldehyde	250	U
108-95-2	Phenol	250	U
111-44-4	Bis(2-chloroethyl)ether	250	U
95-57-8	2-Chlorophenol	250	U
95-48-7	2-Methylphenol	250	U
108-60-1	2,2´-Oxybis(1-chloropropane)	250	U
98-86-2	Acetophenone	250	U
106-44-5	4-Methylphenol	250	U
621-64-7	N-Nitroso-di-n-propylamine	250	U
67-72-1	Hexachloroethane	250	U
98-95-3	Nitrobenzene	250	U
78-59-1	Isophorone	250	U
88-75-5	2-Nitrophenol	250	U
105-67-9	2,4-Dimethylphenol	250	U
111-91-1	Bis(2-chloroethoxy)methane	250	U
120-83-2	2,4-Dichlorophenol	250	U
91-20-3	Naphthalene	250	U
106-47-8	4-Chloroaniline	250	U
87-68-3	Hexachlorobutadiene	250	U
105-60-2	Caprolactam	250	U
59-50-7	4-Chloro-3-methylphenol	250	U
91-57-6	2-Methylnaphthalene	250	U
77-47-4	Hexachlorocyclopentadiene	250	U
88-06-2	2,4,6-Trichlorophenol	250	U
95-95-4	2,4,5-Trichlorophenol	250	U
92-52-4	1,1´-Biphenyl	250	U
91-58-7	2-Chloronaphthalene	250	U
88-74-4	2-Nitroaniline	490	U
131-11-3	Dimethylphthalate	250	U
606-20-2	2,6-Dinitrotoluene	250	U
208-96-8	Acenaphthylene	250	U
99-09-2	3-Nitroaniline	490	U
83-32-9	Acenaphthene	250	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30S9

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-14A

Sample wt/vol: 30.5 (g/mL) G Lab File ID: S2H5265.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 34 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup:(Y/N) Y pH: 7.3 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
51-28-5	2,4-Dinitrophenol	490	U
100-02-7	4-Nitrophenol	490	U
132-64-9	Dibenzofuran	250	U
121-14-2	2,4-Dinitrotoluene	250	U
84-66-2	Diethylphthalate	250	U
86-73-7	Fluorene	250	U
7005-72-3	4-Chlorophenyl-phenylether	250	U
100-01-6	4-Nitroaniline	490	U
534-52-1	4,6-Dinitro-2-methylphenol	490	U
86-30-6	N-Nitrosodiphenylamine (1)	250	U
95-94-3	1,2,4,5-Tetrachlorobenzene	250	U
101-55-3	4-Bromophenyl-phenylether	250	U
118-74-1	Hexachlorobenzene	250	U
1912-24-9	Atrazine	250	U
87-86-5	Pentachlorophenol	490	U
85-01-8	Phenanthrene	250	U
120-12-7	Anthracene	250	U
86-74-8	Carbazole	250	U
84-74-2	Di-n-butylphthalate	250	U
206-44-0	Fluoranthene	250	U
129-00-0	Pyrene	250	U
85-68-7	Butylbenzylphthalate	250	U
91-94-1	3,3´-Dichlorobenzidine	250	U
56-55-3	Benzo(a)anthracene	250	U
218-01-9	Chrysene	250	U
117-81-7	Bis(2-ethylhexyl)phthalate	250	U
117-84-0	Di-n-octylphthalate	250	U
205-99-2	Benzo(b)fluoranthene	250	U
207-08-9	Benzo(k)fluoranthene	250	U
50-32-8	Benzo(a)pyrene	250	U
193-39-5	Indeno(1,2,3-cd)pyrene	250	U
53-70-3	Dibenzo(a,h)anthracene	250	U
191-24-2	Benzo(g,h,i)perylene	250	U
58-90-2	2,3,4,6-Tetrachlorophenol	250	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30S9

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-14A

Sample wt/vol: 30.5 (g/mL) G Lab File ID: S2H5265.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 34 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup: (Y/N) Y pH: 7.3 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	2.996	180	J
02		Unknown-02	3.156	110	J
03	5469-16-9	2(3H)-Furanone, dihydro-4-hy	4.486	320	BNJ
04		Unknown-03	4.690	260	J
05		Unknown-04	5.215	350	J
06		Unknown-05	5.344	140	J
07	57-10-3	n-Hexadecanoic acid	7.907	220	NJ
08		Unknown-06	9.215	240	J
09		Unknown-07	9.601	200	J
10	301-02-0	9-Octadecenamide, (Z)-	10.448	410	NJ
	E96679[2]	Total Alkanes	N/A		

[2]EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30T0

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-15A

Sample wt/vol: 30.2 (g/mL) G Lab File ID: S2H5266.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 28 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup:(Y/N) Y pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
100-52-7	Benzaldehyde	230	U
108-95-2	Phenol	230	U
111-44-4	Bis(2-chloroethyl)ether	230	U
95-57-8	2-Chlorophenol	230	U
95-48-7	2-Methylphenol	230	U
108-60-1	2,2´-Oxybis(1-chloropropane)	230	U
98-86-2	Acetophenone	230	U
106-44-5	4-Methylphenol	230	U
621-64-7	N-Nitroso-di-n-propylamine	230	U
67-72-1	Hexachloroethane	230	U
98-95-3	Nitrobenzene	230	U
78-59-1	Isophorone	230	U
88-75-5	2-Nitrophenol	230	U
105-67-9	2,4-Dimethylphenol	230	U
111-91-1	Bis(2-chloroethoxy)methane	230	U
120-83-2	2,4-Dichlorophenol	230	U
91-20-3	Naphthalene	230	U
106-47-8	4-Chloroaniline	230	U
87-68-3	Hexachlorobutadiene	230	U
105-60-2	Caprolactam	230	U
59-50-7	4-Chloro-3-methylphenol	230	U
91-57-6	2-Methylnaphthalene	230	U
77-47-4	Hexachlorocyclopentadiene	230	U
88-06-2	2,4,6-Trichlorophenol	230	U
95-95-4	2,4,5-Trichlorophenol	230	U
92-52-4	1,1´-Biphenyl	230	U
91-58-7	2-Chloronaphthalene	230	U
88-74-4	2-Nitroaniline	450	U
131-11-3	Dimethylphthalate	230	U
606-20-2	2,6-Dinitrotoluene	230	U
208-96-8	Acenaphthylene	230	U
99-09-2	3-Nitroaniline	450	U
83-32-9	Acenaphthene	230	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30T0

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-15A

Sample wt/vol: 30.2 (g/mL) G Lab File ID: S2H5266.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 28 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup:(Y/N) Y pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
51-28-5	2,4-Dinitrophenol	450	U
100-02-7	4-Nitrophenol	450	U
132-64-9	Dibenzofuran	230	U
121-14-2	2,4-Dinitrotoluene	230	U
84-66-2	Diethylphthalate	230	U
86-73-7	Fluorene	230	U
7005-72-3	4-Chlorophenyl-phenylether	230	U
100-01-6	4-Nitroaniline	450	U
534-52-1	4,6-Dinitro-2-methylphenol	450	U
86-30-6	N-Nitrosodiphenylamine (1)	230	U
95-94-3	1,2,4,5-Tetrachlorobenzene	230	U
101-55-3	4-Bromophenyl-phenylether	230	U
118-74-1	Hexachlorobenzene	230	U
1912-24-9	Atrazine	230	U
87-86-5	Pentachlorophenol	450	U
85-01-8	Phenanthrene	230	U
120-12-7	Anthracene	230	U
86-74-8	Carbazole	230	U
84-74-2	Di-n-butylphthalate	230	U
206-44-0	Fluoranthene	230	U
129-00-0	Pyrene	230	U
85-68-7	Butylbenzylphthalate	230	U
91-94-1	3,3´-Dichlorobenzidine	230	U
56-55-3	Benzo(a)anthracene	230	U
218-01-9	Chrysene	230	U
117-81-7	Bis(2-ethylhexyl)phthalate	230	U
117-84-0	Di-n-octylphthalate	230	U
205-99-2	Benzo(b)fluoranthene	230	U
207-08-9	Benzo(k)fluoranthene	230	U
50-32-8	Benzo(a)pyrene	230	U
193-39-5	Indeno(1,2,3-cd)pyrene	230	U
53-70-3	Dibenzo(a,h)anthracene	230	U
191-24-2	Benzo(g,h,i)perylene	230	U
58-90-2	2,3,4,6-Tetrachlorophenol	230	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30T0

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-15A

Sample wt/vol: 30.2 (g/mL) G Lab File ID: S2H5266.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 28 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup: (Y/N) Y pH: 7.0 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	2.996	240	J
02	5469-16-9	2(3H)-Furanone, dihydro-4-hy	4.486	290	BNJ
03	32780-06-6	(S)-(+)-2',3'-Dideoxyribonol	4.690	250	NJ
04		Unknown-02	5.215	340	J
05		Unknown-03	5.344	150	J
06		Unknown-04	7.607	110	J
07	57-10-3	n-Hexadecanoic acid	7.907	260	NJ
08		Unknown-05	9.205	190	J
09		Unknown-06	9.591	250	J
10		Unknown-07	10.170	230	J
11		Unknown-08	10.427	610	J
12	83-47-6	.gamma.-Sitosterol	12.776	1300	NJ
	E96679[2]	Total Alkanes	N/A	770	J

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30T1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-16A

Sample wt/vol: 30.5 (g/mL) G Lab File ID: S2H5267.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 9.6 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup:(Y/N) Y pH: 7.1 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
100-52-7	Benzaldehyde	180	U
108-95-2	Phenol	180	U
111-44-4	Bis(2-chloroethyl)ether	180	U
95-57-8	2-Chlorophenol	180	U
95-48-7	2-Methylphenol	180	U
108-60-1	2,2´-Oxybis(1-chloropropane)	180	U
98-86-2	Acetophenone	180	U
106-44-5	4-Methylphenol	180	U
621-64-7	N-Nitroso-di-n-propylamine	180	U
67-72-1	Hexachloroethane	180	U
98-95-3	Nitrobenzene	180	U
78-59-1	Isophorone	180	U
88-75-5	2-Nitrophenol	180	U
105-67-9	2,4-Dimethylphenol	180	U
111-91-1	Bis(2-chloroethoxy)methane	180	U
120-83-2	2,4-Dichlorophenol	180	U
91-20-3	Naphthalene	180	U
106-47-8	4-Chloroaniline	180	U
87-68-3	Hexachlorobutadiene	180	U
105-60-2	Caprolactam	180	U
59-50-7	4-Chloro-3-methylphenol	180	U
91-57-6	2-Methylnaphthalene	180	U
77-47-4	Hexachlorocyclopentadiene	180	U
88-06-2	2,4,6-Trichlorophenol	180	U
95-95-4	2,4,5-Trichlorophenol	180	U
92-52-4	1,1´-Biphenyl	180	U
91-58-7	2-Chloronaphthalene	180	U
88-74-4	2-Nitroaniline	360	U
131-11-3	Dimethylphthalate	180	U
606-20-2	2,6-Dinitrotoluene	180	U
208-96-8	Acenaphthylene	180	U
99-09-2	3-Nitroaniline	360	U
83-32-9	Acenaphthene	180	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30T1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-16A

Sample wt/vol: 30.5 (g/mL) G Lab File ID: S2H5267.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 9.6 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup:(Y/N) Y pH: 7.1 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
51-28-5	2,4-Dinitrophenol	360	U
100-02-7	4-Nitrophenol	360	U
132-64-9	Dibenzofuran	180	U
121-14-2	2,4-Dinitrotoluene	180	U
84-66-2	Diethylphthalate	180	U
86-73-7	Fluorene	180	U
7005-72-3	4-Chlorophenyl-phenylether	180	U
100-01-6	4-Nitroaniline	360	U
534-52-1	4,6-Dinitro-2-methylphenol	360	U
86-30-6	N-Nitrosodiphenylamine (1)	180	U
95-94-3	1,2,4,5-Tetrachlorobenzene	180	U
101-55-3	4-Bromophenyl-phenylether	180	U
118-74-1	Hexachlorobenzene	180	U
1912-24-9	Atrazine	180	U
87-86-5	Pentachlorophenol	360	U
85-01-8	Phenanthrene	180	U
120-12-7	Anthracene	180	U
86-74-8	Carbazole	180	U
84-74-2	Di-n-butylphthalate	40	J
206-44-0	Fluoranthene	180	U
129-00-0	Pyrene	180	U
85-68-7	Butylbenzylphthalate	180	U
91-94-1	3,3´-Dichlorobenzidine	180	U
56-55-3	Benzo(a)anthracene	180	U
218-01-9	Chrysene	180	U
117-81-7	Bis(2-ethylhexyl)phthalate	180	U
117-84-0	Di-n-octylphthalate	180	U
205-99-2	Benzo(b)fluoranthene	180	U
207-08-9	Benzo(k)fluoranthene	180	U
50-32-8	Benzo(a)pyrene	180	U
193-39-5	Indeno(1,2,3-cd)pyrene	180	U
53-70-3	Dibenzo(a,h)anthracene	180	U
191-24-2	Benzo(g,h,i)perylene	180	U
58-90-2	2,3,4,6-Tetrachlorophenol	180	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: H30T1

Lab Name: MITKEM LABORATORIES | Contract: EP-W-11-033

Lab Code: MITKEM | Case No.: 41926 | Mod. Ref No.: | SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL | Lab Sample ID: K2198-16A

Sample wt/vol: 30.5 (g/mL) G | Lab File ID: S2H5267.D

Level: (TRACE or LOW/MED) LOW | Extraction: (Type) SONC

% Moisture: 9.6 | Decanted: (Y/N) N | Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) | Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) | GPC Factor: 2.00 | Date Analyzed: 11/10/2011

GPC Cleanup: (Y/N) Y | pH: 7.1 | Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	2.988	130	J
02	5469-16-9	2(3H)-Furanone, dihydro-4-hy	4.489	290	BNJ
03	1000194-17-0	5-Hydroxymethyldihydrofuran-	4.693	230	NJ
04		Unknown-02	5.218	290	J
05		Unknown-03	5.304	200	J
06		Unknown-04	7.084	78	J
07		Unknown-05	7.599	110	J
08	57-10-3	n-Hexadecanoic acid	7.910	200	NJ
09		Unknown-06	9.218	170	J
10		Unknown-07	10.462	300	J
	E96679€ [2]	Total Alkanes	N/A		

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30T2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-17A

Sample wt/vol: 30.2 (g/mL) G Lab File ID: S2H5268.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 24 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup:(Y/N) Y pH: 7.3 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
100-52-7	Benzaldehyde	220	U
108-95-2	Phenol	220	U
111-44-4	Bis(2-chloroethyl)ether	220	U
95-57-8	2-Chlorophenol	220	U
95-48-7	2-Methylphenol	220	U
108-60-1	2,2´-Oxybis(1-chloropropane)	220	U
98-86-2	Acetophenone	220	U
106-44-5	4-Methylphenol	220	U
621-64-7	N-Nitroso-di-n-propylamine	220	U
67-72-1	Hexachloroethane	220	U
98-95-3	Nitrobenzene	220	U
78-59-1	Isophorone	220	U
88-75-5	2-Nitrophenol	220	U
105-67-9	2,4-Dimethylphenol	220	U
111-91-1	Bis(2-chloroethoxy)methane	220	U
120-83-2	2,4-Dichlorophenol	220	U
91-20-3	Naphthalene	220	U
106-47-8	4-Chloroaniline	220	U
87-68-3	Hexachlorobutadiene	220	U
105-60-2	Caprolactam	220	U
59-50-7	4-Chloro-3-methylphenol	220	U
91-57-6	2-Methylnaphthalene	220	U
77-47-4	Hexachlorocyclopentadiene	220	U
88-06-2	2,4,6-Trichlorophenol	220	U
95-95-4	2,4,5-Trichlorophenol	220	U
92-52-4	1,1´-Biphenyl	220	U
91-58-7	2-Chloronaphthalene	220	U
88-74-4	2-Nitroaniline	430	U
131-11-3	Dimethylphthalate	220	U
606-20-2	2,6-Dinitrotoluene	220	U
208-96-8	Acenaphthylene	220	U
99-09-2	3-Nitroaniline	430	U
83-32-9	Acenaphthene	220	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30T2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-17A

Sample wt/vol: 30.2 (g/mL) G Lab File ID: S2H5268.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 24 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup:(Y/N) Y pH: 7.3 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
51-28-5	2,4-Dinitrophenol	430	U
100-02-7	4-Nitrophenol	430	U
132-64-9	Dibenzofuran	220	U
121-14-2	2,4-Dinitrotoluene	220	U
84-66-2	Diethylphthalate	220	U
86-73-7	Fluorene	220	U
7005-72-3	4-Chlorophenyl-phenylether	220	U
100-01-6	4-Nitroaniline	430	U
534-52-1	4,6-Dinitro-2-methylphenol	430	U
86-30-6	N-Nitrosodiphenylamine (1)	220	U
95-94-3	1,2,4,5-Tetrachlorobenzene	220	U
101-55-3	4-Bromophenyl-phenylether	220	U
118-74-1	Hexachlorobenzene	220	U
1912-24-9	Atrazine	220	U
87-86-5	Pentachlorophenol	430	U
85-01-8	Phenanthrene	220	U
120-12-7	Anthracene	220	U
86-74-8	Carbazole	220	U
84-74-2	Di-n-butylphthalate	220	U
206-44-0	Fluoranthene	220	U
129-00-0	Pyrene	220	U
85-68-7	Butylbenzylphthalate	220	U
91-94-1	3,3´-Dichlorobenzidine	220	U
56-55-3	Benzo(a)anthracene	220	U
218-01-9	Chrysene	220	U
117-81-7	Bis(2-ethylhexyl)phthalate	220	U
117-84-0	Di-n-octylphthalate	220	U
205-99-2	Benzo(b)fluoranthene	220	U
207-08-9	Benzo(k)fluoranthene	220	U
50-32-8	Benzo(a)pyrene	220	U
193-39-5	Indeno(1,2,3-cd)pyrene	220	U
53-70-3	Dibenzo(a,h)anthracene	220	U
191-24-2	Benzo(g,h,i)perylene	220	U
58-90-2	2,3,4,6-Tetrachlorophenol	220	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30T2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-17A

Sample wt/vol: 30.2 (g/mL) G Lab File ID: S2H5268.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 24 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup: (Y/N) Y pH: 7.3 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	2.999	170	J
02	5469-16-9	2(3H)-Furanone, dihydro-4-hy	4.490	310	BNJ
03		Unknown-02	4.694	240	J
04		Unknown-03	4.994	88	J
05		Unknown-04	5.208	310	J
06		Unknown-05	5.337	160	J
07		Unknown-06	7.600	90	J
08	57-10-3	n-Hexadecanoic acid	7.911	290	NJ
09		Unknown-07	9.208	200	J
10	57-87-4	Ergosterol	9.594	260	NJ
11		Unknown-08	10.184	230	J
12	301-02-0	9-Octadecenamide, (Z)-	10.431	630	NJ
	E96679[2]	Total Alkanes	N/A		

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30T3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-18A

Sample wt/vol: 30.4 (g/mL) G Lab File ID: S2H5269.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 22 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup:(Y/N) Y pH: 7.3 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
100-52-7	Benzaldehyde	210	U
108-95-2	Phenol	210	U
111-44-4	Bis(2-chloroethyl)ether	210	U
95-57-8	2-Chlorophenol	210	U
95-48-7	2-Methylphenol	210	U
108-60-1	2,2´-Oxybis(1-chloropropane)	210	U
98-86-2	Acetophenone	210	U
106-44-5	4-Methylphenol	210	U
621-64-7	N-Nitroso-di-n-propylamine	210	U
67-72-1	Hexachloroethane	210	U
98-95-3	Nitrobenzene	210	U
78-59-1	Isophorone	210	U
88-75-5	2-Nitrophenol	210	U
105-67-9	2,4-Dimethylphenol	210	U
111-91-1	Bis(2-chloroethoxy)methane	210	U
120-83-2	2,4-Dichlorophenol	210	U
91-20-3	Naphthalene	210	U
106-47-8	4-Chloroaniline	210	U
87-68-3	Hexachlorobutadiene	210	U
105-60-2	Caprolactam	210	U
59-50-7	4-Chloro-3-methylphenol	210	U
91-57-6	2-Methylnaphthalene	210	U
77-47-4	Hexachlorocyclopentadiene	210	U
88-06-2	2,4,6-Trichlorophenol	210	U
95-95-4	2,4,5-Trichlorophenol	210	U
92-52-4	1,1´-Biphenyl	210	U
91-58-7	2-Chloronaphthalene	210	U
88-74-4	2-Nitroaniline	420	U
131-11-3	Dimethylphthalate	210	U
606-20-2	2,6-Dinitrotoluene	210	U
208-96-8	Acenaphthylene	210	U
99-09-2	3-Nitroaniline	420	U
83-32-9	Acenaphthene	210	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30T3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-18A

Sample wt/vol: 30.4 (g/mL) G Lab File ID: S2H5269.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 22 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup:(Y/N) Y pH: 7.3 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
51-28-5	2,4-Dinitrophenol	420	U
100-02-7	4-Nitrophenol	420	U
132-64-9	Dibenzofuran	210	U
121-14-2	2,4-Dinitrotoluene	210	U
84-66-2	Diethylphthalate	210	U
86-73-7	Fluorene	210	U
7005-72-3	4-Chlorophenyl-phenylether	210	U
100-01-6	4-Nitroaniline	420	U
534-52-1	4,6-Dinitro-2-methylphenol	420	U
86-30-6	N-Nitrosodiphenylamine (1)	210	U
95-94-3	1,2,4,5-Tetrachlorobenzene	210	U
101-55-3	4-Bromophenyl-phenylether	210	U
118-74-1	Hexachlorobenzene	210	U
1912-24-9	Atrazine	210	U
87-86-5	Pentachlorophenol	420	U
85-01-8	Phenanthrene	210	U
120-12-7	Anthracene	210	U
86-74-8	Carbazole	210	U
84-74-2	Di-n-butylphthalate	44	J
206-44-0	Fluoranthene	210	U
129-00-0	Pyrene	210	U
85-68-7	Butylbenzylphthalate	210	U
91-94-1	3,3´-Dichlorobenzidine	210	U
56-55-3	Benzo(a)anthracene	210	U
218-01-9	Chrysene	210	U
117-81-7	Bis(2-ethylhexyl)phthalate	210	U
117-84-0	Di-n-octylphthalate	210	U
205-99-2	Benzo(b)fluoranthene	210	U
207-08-9	Benzo(k)fluoranthene	210	U
50-32-8	Benzo(a)pyrene	210	U
193-39-5	Indeno(1,2,3-cd)pyrene	210	U
53-70-3	Dibenzo(a,h)anthracene	210	U
191-24-2	Benzo(g,h,i)perylene	210	U
58-90-2	2,3,4,6-Tetrachlorophenol	210	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30T3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-18A

Sample wt/vol: 30.4 (g/mL) G Lab File ID: S2H5269.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 22 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup: (Y/N) Y pH: 7.3 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	2.996	160	J
02		Unknown-02	3.157	120	J
03	5469-16-9	2(3H)-Furanone, dihydro-4-hy	4.487	280	BNJ
04		Unknown-03	4.691	210	J
05		Unknown-04	5.205	260	J
06		Unknown-05	5.334	110	J
07		Unknown-06	5.431	100	J
08		Unknown-07	7.608	110	J
09	57-10-3	n-Hexadecanoic acid	7.908	250	NJ
10	1000197-14-1	4b,8-Dimethyl-2-isopropylphe	8.240	150	NJ
11		Unknown-08	9.205	200	J
12		Unknown-09	9.591	140	J
13		Unknown-10	10.439	560	J
	E96679[2]	Total Alkanes	N/A		

[2] EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30T4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-19A

Sample wt/vol: 30.4 (g/mL) G Lab File ID: S2H5277.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 20 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/11/2011

GPC Cleanup:(Y/N) Y pH: 8.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
100-52-7	Benzaldehyde	210	U
108-95-2	Phenol	210	U
111-44-4	Bis(2-chloroethyl)ether	210	U
95-57-8	2-Chlorophenol	210	U
95-48-7	2-Methylphenol	210	U
108-60-1	2,2´-Oxybis(1-chloropropane)	210	U
98-86-2	Acetophenone	210	U
106-44-5	4-Methylphenol	210	U
621-64-7	N-Nitroso-di-n-propylamine	210	U
67-72-1	Hexachloroethane	210	U
98-95-3	Nitrobenzene	210	U
78-59-1	Isophorone	210	U
88-75-5	2-Nitrophenol	210	U
105-67-9	2,4-Dimethylphenol	210	U
111-91-1	Bis(2-chloroethoxy)methane	210	U
120-83-2	2,4-Dichlorophenol	210	U
91-20-3	Naphthalene	210	U
106-47-8	4-Chloroaniline	210	U
87-68-3	Hexachlorobutadiene	210	U
105-60-2	Caprolactam	210	U
59-50-7	4-Chloro-3-methylphenol	210	U
91-57-6	2-Methylnaphthalene	210	U
77-47-4	Hexachlorocyclopentadiene	210	U
88-06-2	2,4,6-Trichlorophenol	210	U
95-95-4	2,4,5-Trichlorophenol	210	U
92-52-4	1,1´-Biphenyl	210	U
91-58-7	2-Chloronaphthalene	210	U
88-74-4	2-Nitroaniline	410	U
131-11-3	Dimethylphthalate	210	U
606-20-2	2,6-Dinitrotoluene	210	U
208-96-8	Acenaphthylene	210	U
99-09-2	3-Nitroaniline	410	U
83-32-9	Acenaphthene	210	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30T4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-19A

Sample wt/vol: 30.4 (g/mL) G Lab File ID: S2H5277.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 20 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/11/2011

GPC Cleanup:(Y/N) Y pH: 8.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
51-28-5	2,4-Dinitrophenol	410	U
100-02-7	4-Nitrophenol	410	U
132-64-9	Dibenzofuran	210	U
121-14-2	2,4-Dinitrotoluene	210	U
84-66-2	Diethylphthalate	210	U
86-73-7	Fluorene	210	U
7005-72-3	4-Chlorophenyl-phenylether	210	U
100-01-6	4-Nitroaniline	410	U
534-52-1	4,6-Dinitro-2-methylphenol	410	U
86-30-6	N-Nitrosodiphenylamine (1)	210	U
95-94-3	1,2,4,5-Tetrachlorobenzene	210	U
101-55-3	4-Bromophenyl-phenylether	210	U
118-74-1	Hexachlorobenzene	210	U
1912-24-9	Atrazine	210	U
87-86-5	Pentachlorophenol	410	U
85-01-8	Phenanthrene	210	U
120-12-7	Anthracene	210	U
86-74-8	Carbazole	210	U
84-74-2	Di-n-butylphthalate	210	U
206-44-0	Fluoranthene	210	U
129-00-0	Pyrene	210	U
85-68-7	Butylbenzylphthalate	210	U
91-94-1	3,3´-Dichlorobenzidine	210	U
56-55-3	Benzo(a)anthracene	210	U
218-01-9	Chrysene	210	U
117-81-7	Bis(2-ethylhexyl)phthalate	210	U
117-84-0	Di-n-octylphthalate	210	U
205-99-2	Benzo(b)fluoranthene	210	U
207-08-9	Benzo(k)fluoranthene	210	U
50-32-8	Benzo(a)pyrene	210	U
193-39-5	Indeno(1,2,3-cd)pyrene	210	U
53-70-3	Dibenzo(a,h)anthracene	210	U
191-24-2	Benzo(g,h,i)perylene	210	U
58-90-2	2,3,4,6-Tetrachlorophenol	210	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30T4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-19A

Sample wt/vol: 30.4 (g/mL) G Lab File ID: S2H5277.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 20 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/11/2011

GPC Cleanup: (Y/N) Y pH: 8.0 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	2.996	100	J
02		Unknown-02	3.168	110	J
03	5469-16-9	2(3H)-Furanone, dihydro-4-hy	4.497	260	BNJ
04		Unknown-03	4.701	240	J
05		Unknown-04	5.216	250	J
06		Unknown-05	5.344	130	J
07		Unknown-06	7.618	100	J
08		Unknown-07	7.929	150	J
09	301-02-0	9-Octadecenamide, (Z)-	9.259	160	NJ
10		Unknown-08	9.666	130	J
11		Unknown-09	10.545	220	J
	E96679[2]	Total Alkanes	N/A		

[2]EPA-designated Registry Number.

1D - FORM I SV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30T5

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-20A

Sample wt/vol: 30.0 (g/mL) G Lab File ID: S2H5271.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 24 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup:(Y/N) Y pH: 8.2 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
100-52-7	Benzaldehyde	220	U
108-95-2	Phenol	220	U
111-44-4	Bis(2-chloroethyl)ether	220	U
95-57-8	2-Chlorophenol	220	U
95-48-7	2-Methylphenol	220	U
108-60-1	2,2´-Oxybis(1-chloropropane)	220	U
98-86-2	Acetophenone	220	U
106-44-5	4-Methylphenol	220	U
621-64-7	N-Nitroso-di-n-propylamine	220	U
67-72-1	Hexachloroethane	220	U
98-95-3	Nitrobenzene	220	U
78-59-1	Isophorone	220	U
88-75-5	2-Nitrophenol	220	U
105-67-9	2,4-Dimethylphenol	220	U
111-91-1	Bis(2-chloroethoxy)methane	220	U
120-83-2	2,4-Dichlorophenol	220	U
91-20-3	Naphthalene	220	U
106-47-8	4-Chloroaniline	220	U
87-68-3	Hexachlorobutadiene	220	U
105-60-2	Caprolactam	220	U
59-50-7	4-Chloro-3-methylphenol	220	U
91-57-6	2-Methylnaphthalene	220	U
77-47-4	Hexachlorocyclopentadiene	220	U
88-06-2	2,4,6-Trichlorophenol	220	U
95-95-4	2,4,5-Trichlorophenol	220	U
92-52-4	1,1´-Biphenyl	220	U
91-58-7	2-Chloronaphthalene	220	U
88-74-4	2-Nitroaniline	430	U
131-11-3	Dimethylphthalate	220	U
606-20-2	2,6-Dinitrotoluene	220	U
208-96-8	Acenaphthylene	220	U
99-09-2	3-Nitroaniline	430	U
83-32-9	Acenaphthene	220	U

1E - FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30T5

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-20A

Sample wt/vol: 30.0 (g/mL) G Lab File ID: S2H5271.D

Level: (LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 24 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup:(Y/N) Y pH: 8.2 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
51-28-5	2,4-Dinitrophenol	430	U
100-02-7	4-Nitrophenol	430	U
132-64-9	Dibenzofuran	220	U
121-14-2	2,4-Dinitrotoluene	220	U
84-66-2	Diethylphthalate	220	U
86-73-7	Fluorene	220	U
7005-72-3	4-Chlorophenyl-phenylether	220	U
100-01-6	4-Nitroaniline	430	U
534-52-1	4,6-Dinitro-2-methylphenol	430	U
86-30-6	N-Nitrosodiphenylamine (1)	220	U
95-94-3	1,2,4,5-Tetrachlorobenzene	220	U
101-55-3	4-Bromophenyl-phenylether	220	U
118-74-1	Hexachlorobenzene	220	U
1912-24-9	Atrazine	220	U
87-86-5	Pentachlorophenol	430	U
85-01-8	Phenanthrene	220	U
120-12-7	Anthracene	220	U
86-74-8	Carbazole	220	U
84-74-2	Di-n-butylphthalate	52	J
206-44-0	Fluoranthene	220	U
129-00-0	Pyrene	220	U
85-68-7	Butylbenzylphthalate	220	U
91-94-1	3,3´-Dichlorobenzidine	220	U
56-55-3	Benzo(a)anthracene	220	U
218-01-9	Chrysene	220	U
117-81-7	Bis(2-ethylhexyl)phthalate	220	U
117-84-0	Di-n-octylphthalate	220	U
205-99-2	Benzo(b)fluoranthene	220	U
207-08-9	Benzo(k)fluoranthene	220	U
50-32-8	Benzo(a)pyrene	220	U
193-39-5	Indeno(1,2,3-cd)pyrene	220	U
53-70-3	Dibenzo(a,h)anthracene	220	U
191-24-2	Benzo(g,h,i)perylene	220	U
58-90-2	2,3,4,6-Tetrachlorophenol	220	U

(1) Cannot be separated from Diphenylamine

1K - FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

H30T5

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-20A

Sample wt/vol: 30.0 (g/mL) G Lab File ID: S2H5271.D

Level: (TRACE or LOW/MED) LOW Extraction: (Type) SONC

% Moisture: 24 Decanted: (Y/N) N Date Received: 10/28/2011

Concentrated Extract Volume: 500 (uL) Date Extracted: 11/07/2011

Injection Volume: 2.0 (uL) GPC Factor: 2.00 Date Analyzed: 11/10/2011

GPC Cleanup: (Y/N) Y pH: 8.2 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01	2.996	92	J
02		Unknown-02	3.157	88	J
03	5469-16-9	2(3H)-Furanone, dihydro-4-hy	4.486	340	BNJ
04		Unknown-03	4.690	260	J
05		Unknown-04	5.215	370	J
06		Unknown-05	7.607	130	J
07	57-10-3	n-Hexadecanoic acid	7.907	220	NJ
08		Unknown-06	9.183	210	J
09	930-02-9	Octadecane, 1-(ethenyloxy)-	9.559	180	NJ
10		Unknown-07	10.127	160	J
11		Unknown-08	10.363	590	J
12		Unknown-09	10.695	280	J
	E96679[2]	Total Alkanes	N/A		

[2] EPA-designated Registry Number.

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Q0

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-01B

Sample wt/vol: 30.5 (g/mL) G Lab File ID: E2K7577F.D/E2K7577R.D

% Moisture: 15 Decanted: (Y/N) N Date Received: 10/28/2011

Extraction: (Type) SONC Date Extracted: 11/06/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/08/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 8.2 Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
12674-11-2	Aroclor-1016	38	U
11104-28-2	Aroclor-1221	38	U
11141-16-5	Aroclor-1232	38	U
53469-21-9	Aroclor-1242	38	U
12672-29-6	Aroclor-1248	38	U
11097-69-1	Aroclor-1254	38	U
11096-82-5	Aroclor-1260	38	U
37324-23-5	Aroclor-1262	38	U
11100-14-4	Aroclor-1268	38	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Q1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-02B

Sample wt/vol: 30.0 (g/mL) G Lab File ID: E2K7580F.D/E2K7580R.D

% Moisture: 22 Decanted: (Y/N) N Date Received: 10/28/2011

Extraction: (Type) SONC Date Extracted: 11/06/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/08/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 7.5 Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
12674-11-2	Aroclor-1016	43	U
11104-28-2	Aroclor-1221	43	U
11141-16-5	Aroclor-1232	43	U
53469-21-9	Aroclor-1242	43	U
12672-29-6	Aroclor-1248	43	U
11097-69-1	Aroclor-1254	43	U
11096-82-5	Aroclor-1260	43	U
37324-23-5	Aroclor-1262	43	U
11100-14-4	Aroclor-1268	43	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Q3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-04B

Sample wt/vol: 30.0 (g/mL) G Lab File ID: E2K7604F.D/E2K7604R.D

% Moisture: 19 Decanted: (Y/N) N Date Received: 10/28/2011

Extraction: (Type) SONC Date Extracted: 11/06/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/08/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 7.3 Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
12674-11-2	Aroclor-1016	41	U
11104-28-2	Aroclor-1221	41	U
11141-16-5	Aroclor-1232	41	U
53469-21-9	Aroclor-1242	41	U
12672-29-6	Aroclor-1248	41	U
11097-69-1	Aroclor-1254	41	U
11096-82-5	Aroclor-1260	41	U
37324-23-5	Aroclor-1262	41	U
11100-14-4	Aroclor-1268	41	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Q4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-05B

Sample wt/vol: 30.0 (g/mL) G Lab File ID: E2K7583F.D/E2K7583R.D

% Moisture: 16 Decanted: (Y/N) N Date Received: 10/28/2011

Extraction: (Type) SONC Date Extracted: 11/06/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/08/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 8.9 Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
12674-11-2	Aroclor-1016	39	U
11104-28-2	Aroclor-1221	39	U
11141-16-5	Aroclor-1232	39	U
53469-21-9	Aroclor-1242	39	U
12672-29-6	Aroclor-1248	39	U
11097-69-1	Aroclor-1254	39	U
11096-82-5	Aroclor-1260	39	U
37324-23-5	Aroclor-1262	39	U
11100-14-4	Aroclor-1268	39	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Q6

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-06B

Sample wt/vol: 30.0 (g/mL) G Lab File ID: E2K7584F.D/E2K7584R.D

% Moisture: 48 Decanted: (Y/N) N Date Received: 10/28/2011

Extraction: (Type) SONC Date Extracted: 11/06/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/08/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 9.1 Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
12674-11-2	Aroclor-1016	63	U
11104-28-2	Aroclor-1221	63	U
11141-16-5	Aroclor-1232	63	U
53469-21-9	Aroclor-1242	63	U
12672-29-6	Aroclor-1248	63	U
11097-69-1	Aroclor-1254	63	U
11096-82-5	Aroclor-1260	63	U
37324-23-5	Aroclor-1262	63	U
11100-14-4	Aroclor-1268	63	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Q8

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-07B

Sample wt/vol: 30.5 (g/mL) G Lab File ID: E2K7585F.D/E2K7585R.D

% Moisture: 70 Decanted: (Y/N) N Date Received: 10/28/2011

Extraction: (Type) SONC Date Extracted: 11/06/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/08/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 9.1 Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
12674-11-2	Aroclor-1016	110	U
11104-28-2	Aroclor-1221	110	U
11141-16-5	Aroclor-1232	110	U
53469-21-9	Aroclor-1242	110	U
12672-29-6	Aroclor-1248	110	U
11097-69-1	Aroclor-1254	110	U
11096-82-5	Aroclor-1260	110	U
37324-23-5	Aroclor-1262	110	U
11100-14-4	Aroclor-1268	110	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30Q9

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-08B

Sample wt/vol: 30.0 (g/mL) G Lab File ID: E2K7586F.D/E2K7586R.D

% Moisture: 62 Decanted: (Y/N) N Date Received: 10/28/2011

Extraction: (Type) SONC Date Extracted: 11/06/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/08/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 8.5 Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
12674-11-2	Aroclor-1016	87	U
11104-28-2	Aroclor-1221	87	U
11141-16-5	Aroclor-1232	87	U
53469-21-9	Aroclor-1242	87	U
12672-29-6	Aroclor-1248	87	U
11097-69-1	Aroclor-1254	87	U
11096-82-5	Aroclor-1260	87	U
37324-23-5	Aroclor-1262	87	U
11100-14-4	Aroclor-1268	87	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30R0

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-09B

Sample wt/vol: 30.7 (g/mL) G Lab File ID: E2K7587F.D/E2K7587R.D

% Moisture: 74 Decanted: (Y/N) N Date Received: 10/28/2011

Extraction: (Type) SONC Date Extracted: 11/06/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/08/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 9.0 Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
12674-11-2	Aroclor-1016	120	U
11104-28-2	Aroclor-1221	120	U
11141-16-5	Aroclor-1232	120	U
53469-21-9	Aroclor-1242	120	U
12672-29-6	Aroclor-1248	120	U
11097-69-1	Aroclor-1254	120	U
11096-82-5	Aroclor-1260	120	U
37324-23-5	Aroclor-1262	120	U
11100-14-4	Aroclor-1268	120	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30R1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-10B

Sample wt/vol: 30.0 (g/mL) G Lab File ID: E2K7588F.D/E2K7588R.D

% Moisture: 54 Decanted: (Y/N) N Date Received: 10/28/2011

Extraction: (Type) SONC Date Extracted: 11/06/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/08/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 8.5 Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
12674-11-2	Aroclor-1016	72	U
11104-28-2	Aroclor-1221	72	U
11141-16-5	Aroclor-1232	72	U
53469-21-9	Aroclor-1242	72	U
12672-29-6	Aroclor-1248	72	U
11097-69-1	Aroclor-1254	72	U
11096-82-5	Aroclor-1260	72	U
37324-23-5	Aroclor-1262	72	U
11100-14-4	Aroclor-1268	72	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30S4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-11B

Sample wt/vol: 30.1 (g/mL) G Lab File ID: E2K7589F.D/E2K7589R.D

% Moisture: 38 Decanted: (Y/N) N Date Received: 10/28/2011

Extraction: (Type) SONC Date Extracted: 11/06/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/08/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 7.8 Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
12674-11-2	Aroclor-1016	53	U
11104-28-2	Aroclor-1221	53	U
11141-16-5	Aroclor-1232	53	U
53469-21-9	Aroclor-1242	53	U
12672-29-6	Aroclor-1248	53	U
11097-69-1	Aroclor-1254	53	U
11096-82-5	Aroclor-1260	53	U
37324-23-5	Aroclor-1262	53	U
11100-14-4	Aroclor-1268	53	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30S5

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-12B

Sample wt/vol: 30.1 (g/mL) G Lab File ID: E2K7590F.D/E2K7590R.D

% Moisture: 14 Decanted: (Y/N) N Date Received: 10/28/2011

Extraction: (Type) SONC Date Extracted: 11/06/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/08/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 7.5 Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
12674-11-2	Aroclor-1016	38	U
11104-28-2	Aroclor-1221	38	U
11141-16-5	Aroclor-1232	38	U
53469-21-9	Aroclor-1242	38	U
12672-29-6	Aroclor-1248	38	U
11097-69-1	Aroclor-1254	38	U
11096-82-5	Aroclor-1260	38	U
37324-23-5	Aroclor-1262	38	U
11100-14-4	Aroclor-1268	38	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30S8

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-13B

Sample wt/vol: 30.1 (g/mL) G Lab File ID: E2K7591F.D/E2K7591R.D

% Moisture: 33 Decanted: (Y/N) N Date Received: 10/28/2011

Extraction: (Type) SONC Date Extracted: 11/06/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/08/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 7.3 Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
12674-11-2	Aroclor-1016	49	U
11104-28-2	Aroclor-1221	49	U
11141-16-5	Aroclor-1232	49	U
53469-21-9	Aroclor-1242	49	U
12672-29-6	Aroclor-1248	49	U
11097-69-1	Aroclor-1254	49	U
11096-82-5	Aroclor-1260	49	U
37324-23-5	Aroclor-1262	49	U
11100-14-4	Aroclor-1268	49	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30S9

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-14B

Sample wt/vol: 30.0 (g/mL) G Lab File ID: E2K7592F.D/E2K7592R.D

% Moisture: 34 Decanted: (Y/N) N Date Received: 10/28/2011

Extraction: (Type) SONC Date Extracted: 11/06/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/08/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 7.3 Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
12674-11-2	Aroclor-1016	50	U
11104-28-2	Aroclor-1221	50	U
11141-16-5	Aroclor-1232	50	U
53469-21-9	Aroclor-1242	50	U
12672-29-6	Aroclor-1248	50	U
11097-69-1	Aroclor-1254	50	U
11096-82-5	Aroclor-1260	50	U
37324-23-5	Aroclor-1262	50	U
11100-14-4	Aroclor-1268	50	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30T0

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-15B

Sample wt/vol: 30.5 (g/mL) G Lab File ID: E2K7593F.D/E2K7593R.D

% Moisture: 28 Decanted: (Y/N) N Date Received: 10/28/2011

Extraction: (Type) SONC Date Extracted: 11/06/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/08/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 7.0 Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
12674-11-2	Aroclor-1016	45	U
11104-28-2	Aroclor-1221	45	U
11141-16-5	Aroclor-1232	45	U
53469-21-9	Aroclor-1242	45	U
12672-29-6	Aroclor-1248	45	U
11097-69-1	Aroclor-1254	45	U
11096-82-5	Aroclor-1260	45	U
37324-23-5	Aroclor-1262	45	U
11100-14-4	Aroclor-1268	45	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30T1

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-16B

Sample wt/vol: 30.0 (g/mL) G Lab File ID: E2K7594F.D/E2K7594R.D

% Moisture: 9.6 Decanted: (Y/N) N Date Received: 10/28/2011

Extraction: (Type) SONC Date Extracted: 11/06/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/08/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 7.1 Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
12674-11-2	Aroclor-1016	37	U
11104-28-2	Aroclor-1221	37	U
11141-16-5	Aroclor-1232	37	U
53469-21-9	Aroclor-1242	37	U
12672-29-6	Aroclor-1248	37	U
11097-69-1	Aroclor-1254	37	U
11096-82-5	Aroclor-1260	37	U
37324-23-5	Aroclor-1262	37	U
11100-14-4	Aroclor-1268	37	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30T2

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-17B

Sample wt/vol: 30.9 (g/mL) G Lab File ID: E2K7605F.D/E2K7605R.D

% Moisture: 24 Decanted: (Y/N) N Date Received: 10/28/2011

Extraction: (Type) SONC Date Extracted: 11/06/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/08/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 7.3 Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
12674-11-2	Aroclor-1016	42	U
11104-28-2	Aroclor-1221	42	U
11141-16-5	Aroclor-1232	42	U
53469-21-9	Aroclor-1242	42	U
12672-29-6	Aroclor-1248	42	U
11097-69-1	Aroclor-1254	42	U
11096-82-5	Aroclor-1260	42	U
37324-23-5	Aroclor-1262	42	U
11100-14-4	Aroclor-1268	42	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30T3

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-18B

Sample wt/vol: 30.3 (g/mL) G Lab File ID: E2K7596F.D/E2K7596R.D

% Moisture: 22 Decanted: (Y/N) N Date Received: 10/28/2011

Extraction: (Type) SONC Date Extracted: 11/06/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/08/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 7.3 Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
12674-11-2	Aroclor-1016	42	U
11104-28-2	Aroclor-1221	42	U
11141-16-5	Aroclor-1232	42	U
53469-21-9	Aroclor-1242	42	U
12672-29-6	Aroclor-1248	42	U
11097-69-1	Aroclor-1254	42	U
11096-82-5	Aroclor-1260	42	U
37324-23-5	Aroclor-1262	42	U
11100-14-4	Aroclor-1268	42	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30T4

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-19B

Sample wt/vol: 30.0 (g/mL) G Lab File ID: E2K7597F.D/E2K7597R.D

% Moisture: 20 Decanted: (Y/N) N Date Received: 10/28/2011

Extraction: (Type) SONC Date Extracted: 11/06/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/08/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 8.0 Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
12674-11-2	Aroclor-1016	41	U
11104-28-2	Aroclor-1221	41	U
11141-16-5	Aroclor-1232	41	U
53469-21-9	Aroclor-1242	41	U
12672-29-6	Aroclor-1248	41	U
11097-69-1	Aroclor-1254	41	U
11096-82-5	Aroclor-1260	41	U
37324-23-5	Aroclor-1262	41	U
11100-14-4	Aroclor-1268	41	U

1H - FORM I ARO

AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

H30T5

Lab Name: MITKEM LABORATORIES Contract: EP-W-11-033

Lab Code: MITKEM Case No.: 41926 Mod. Ref No.: SDG No.: H30Q0

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K2198-20B

Sample wt/vol: 30.1 (g/mL) G Lab File ID: E2K7598F.D/E2K7598R.D

% Moisture: 24 Decanted: (Y/N) N Date Received: 10/28/2011

Extraction: (Type) SONC Date Extracted: 11/06/2011

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 11/08/2011

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup:(Y/N) N pH: 8.2 Sulfur Cleanup: (Y/N) Y

Acid Cleanup:(Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) µG/KG	Q
12674-11-2	Aroclor-1016	43	U
11104-28-2	Aroclor-1221	43	U
11141-16-5	Aroclor-1232	43	U
53469-21-9	Aroclor-1242	43	U
12672-29-6	Aroclor-1248	43	U
11097-69-1	Aroclor-1254	43	U
11096-82-5	Aroclor-1260	43	U
37324-23-5	Aroclor-1262	43	U
11100-14-4	Aroclor-1268	43	U

REGION VIII
DATA VALIDATION REPORT
INORGANIC

Case/TDD No.	Site Name		Operable Unit
41926 / 1109-07	Smurfit Stone Mill		
RPM/OSC Name			
Robert Parker			
Contractor Laboratory	**Contract No.**	**SDG No.**	**Laboratory DPO/Region**
Chemtech Consulting Group	EP-W-09-038	MH3BA0	

Review Assigned Date: February 9, 2012 Data Validator: Bill Fear
Review Completion Date: February 16, 2012 Report Reviewer: Lisa Tyson

Sample ID	Matrix	Analysis
MH3BA0	Water	CLP - ICP-MS Metals (ISM01.3)
MH3B85		
MH3B86		
MH3B87		
MH3B88		
MH3B89		
MH3B90		
MH3B91		
MH3B92		
MH3B93		
MH3B94		
MH3B95		
MH3B96		
MH3B97		
MH3B98		
MH3B99		

DATA QUALITY STATEMENT

( ) Data are ACCEPTABLE according to EPA Functional guidelines with no qualifiers (flags) added by the reviewer.
( ) Data are UNACCEPTABLE according to EPA Functional Guidelines.
(X) Data are acceptable with QUALIFICATIONS noted in review.

Telephone/Communication Logs Enclosed? Yes _____ No ___X_____

CLP Project Officer Attention Required? Yes _____ No ___X____ If yes, list the items that require attention:

INORGANIC DATA VALIDATION REPORT

REVIEW NARRATIVE SUMMARY

This data package was reviewed according to "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review," January 2010.

Raw data were reviewed for completeness and transcription accuracy onto the summary forms. Approximately 10-20% of the results reported in each of the samples, calibrations, and QC analyses were recalculated and verified. If problems were identified during the recalculation of results, a more thorough calculation check was performed.

The data package, SDG No. MH3BA0, consisted of 16 water samples for CLP metals by ISM01.3 ICP-MS. The following table lists the data qualifiers added to the sample analyses. Please see Data Qualifier Definitions, attached to the end of this report.

Sample ID	Elements	Qualifiers	Reason for Qualification	Review Section
MH3BA0, MH3B94, MH3B95, MH3B96, MH3B97, MH3B99	Aluminum	U	Blank contamination	6
MH3B85, MH3B86, MH3B87, MH3B88, MH3B90, MH3B91, MH3B92, MH3B93, MH3B98	Antimony			
MH3BA0	Barium Calcium Magnesium Manganese Potassium			
MH3B85, MH3B86, MH3B89, MH3B90, MH3B91, MH3B92, MH3B93, MH3B96, MH3B97	Beryllium			
MH3BA0, MH3B94, MH3B95, MH3B96, MH3B97, MH3B99	Chromium Copper Lead			
MH3B93, MH3B94, MH3B95, MH3B96	Cobalt			
MH3B95, MH3B97	Iron			
MH3B85, MH3B86, MH3B87, MH3B88, MH3B89, MH3B90, MH3B91, MH3B92, MH3B93, MH3B98	Silver			
MH3B85, MH3B86, MH3B87, MH3B88, MH3B90, MH3B91, MH3B98	Thallium			
MH3B94, MH3B95, MH3B96, MH3B97, MH3B99	Vanadium			

Sample ID	Elements	Qualifiers	Reason for Qualification	Review Section
MH3B85, MH3B88, MH3B89, MH3B90, MH3B91, MH3B92, MH3B98	Cadmium	J-	Negative blank contamination	6
MH3B85, MH3B86, MH3B88,	Beryllium Silver Thallium	J+	ICP interference	7
All samples	Cobalt	J/UJ	Serial dilution criteria not met	13

Positive bias was not assigned to the various beryllium, silver, and thallium results because the results were also qualified as not detected due to blank contamination.

1. DELIVERABLES

All deliverables were present.

Yes X No____

Comments: None.

2. HOLDING TIMES AND PRESERVATION CRITERIA

All technical holding times and preservation criteria were met.

Yes X No____

Comments: The samples were analyzed within holding times. The sample coolers were received within the recommended temperature range of 4 ± 2 ºC.

According to the case narrative, the samples were initially received with non-CLP IDs and the total and dissolved samples were reported with the same ID. The Region 8 SMO coordinator assigned new CLP IDs to these samples. The total and dissolved samples were assigned unique CLP IDs. The laboratory also noted that sample tags were not included with these samples.

Chain-of-custody, summary forms, and raw data were evaluated.

3. INSTRUMENT CALIBRATIONS: STANDARDS AND BLANKS

The instruments were calibrated daily and each time an analysis run was performed.

Yes X No____

Comments: None.

The instruments were calibrated using one blank and the appropriate number of standards.

Yes X No____

Comments: None.

The correlation coefficient was > 0.995, percent differences were within ±30%, or the y-intercept was <CRQL.

Yes X No____

Comments: None.

4. FORM 1 - SAMPLE ANALYSIS RESULTS

Sample analyses were entered correctly on Form Is.

Yes X No____

Comments: None.

5. FORM 2A - INITIAL AND CONTINUING CALIBRATION VERIFICATION

The initial and continuing calibration verification standards (ICV and CCV, respectively) met SOW requirements.

Yes X No____

Comments: None.

The calibration verification results were within 90-110% recovery for metals.

Yes X No____

Comments: None.

The continuing calibration standards were run every two hours and at the beginning of the run, and again after the last analytical sample.

Yes X No____

Comments: None.

6. FORM 3 - BLANKS

The initial and continuing calibration blanks (ICB and CCB, respectively) frequency met SOW requirements.

Yes X No____

Comments: None.

A laboratory/preparation blank was run at the frequency of one per twenty samples, or per sample delivery group (whichever is more frequent), and for each matrix analyzed.

Yes X No____

Comments: None.

All analyzed blanks were free of contamination.

Yes___ No_X_

Comments: The following table lists the blanks with contamination that resulted in sample qualification, elements present, affected samples, and data qualifiers:

Blank Contaminants

Blank ID	Contaminant	Concentration Found in Blank (ug/L)	Associated Samples	Concentration Found in Sample (ug/L)	Qualifier/ Adjustment
ICB	Aluminum	4.981	MH3BA0 MH3B94 MH3B95 MH3B96 MH3B97 MH3B99	<CRQL	20.0 U
	Antimony	0.834	MH3B85 MH3B86 MH3B87 MH3B88 MH3B90 MH3B91 MH3B92 MH3B93 MH3B98	<CRQL <CRQL <CRQL <CRQL 2.3 <CRQL <CRQL <CRQL 2.1	2.0 U 2.0 U 2.0 U 2.0 U U 2.0 U 2.0 U 2.0 U U
CCB4	Barium	0.327	MH3BA0	<CRQL	10.0 U
ICB	Beryllium	0.140	MH3B85 MH3B86 MH3B89 MH3B90 MH3B91 MH3B92 MH3B93 MH3B96 MH3B97	<CRQL <CRQL <CRQL <CRQL 1.2 <CRQL <CRQL <CRQL <CRQL	1.0 U 1.0 U 1.0 U 1.0 U U 1.0 U 1.0 U 1.0 U 1.0 U
CCB4	Calcium	9.67	MH3BA0	<CRQL	500 U
ICB	Chromium	0.193	MH3BA0 MH3B94 MH3B95 MH3B96 MH3B97 MH3B99		2.0 U
	Cobalt	0.131	MH3B93 MH3B94 MH3B95 MH3B96		1.0 U
	Copper	0.150	MH3BA0 MH3B94 MH3B95 MH3B96 MH3B97 MH3B99		2.0 U
	Iron	9.318	MH3B95 MH3B97		200 U

Blank ID	Contaminant	Concentration Found in Blank (ug/L)	Associated Samples	Concentration Found in Sample (ug/L)	Qualifier/ Adjustment
ICB	Lead	0.172 0.206	MH3BA0 MH3B94 MH3B95 MH3B96 MH3B97 MH3B99	<CRQL	1.0 U
CCB4	Magnesium	7.923	MH3BA0		500 U
	Manganese	0.238	MH3BA0		1.0 U
	Potassium	52.75	MH3BA0		500 U
ICB	Silver	0.131	MH3B85 MH3B86 MH3B87 MH3B88 MH3B89 MH3B90 MH3B91 MH3B92 MH3B93 MH3B98		1.0 U
	Thallium	0.224	MH3B85 MH3B86 MH3B87 MH3B88 MH3B90 MH3B91 MH3B98		1.0 U
	Vanadium	0.266	MH3B94 MH3B95 MH3B96 MH3B97 MH3B99		5.0 U
CCBs	Cadmium	-0.182 -0.132 -0.155	MH3B85 MH3B88 MH3B89 MH3B90 MH3B91 MH3B92 MH3B98		J-

7. FORM 4 - ICP INTERFERENCE CHECK SAMPLE

The ICS was analyzed at the beginning of each analysis run but not prior to the Initial Calibration Verification (ICV), and immediately followed by a Continuing Calibration Verification/Continuing Calibration Blank (CCV/CCB).

Yes X No____

Comments: None.

Percent recovery of the analytes in the ICS AB solutions were within the range of 80-120% or the result was within ±2x the CRQL.

Yes X No____

Comments: None.

Sample results for aluminum, calcium, iron, and magnesium were less than the ICSA values.

Yes____ No X

Comments: The following sample results were qualified because the results for calcium and / or magnesium were greater than the ICSA value and the absolute value of the associated element was greater than the MDL in the ICSA analysis:

Element	ICSA Result (ug/L)	MDL (ug/L)	Samples Affected	Qualifiers
Beryllium	0.34	0.061	MH3B85, MH3B86, MH3B87	J+
Silver	0.082	0.070		
Thallium	0.16	0.071		

Positive bias was not assigned to the various beryllium, silver, and thallium results because the results were also qualified as not detected due to blank contamination.

8. FORM 5A - MATRIX SPIKE SAMPLE ANALYSIS

A matrix spike sample was analyzed with every twenty or fewer samples of a similar matrix, or one per sample delivery group (whichever is more frequent).

Yes X No___ NA____

Comments: None.

The percent recoveries (%Rs) were calculated correctly.

Yes X No___ NA____

Comments: None.

Spike recoveries were within the range of 75-125% (an exception is granted where the sample concentration is four times the spike concentration).

Yes X No____

Comments: All recoveries were within 75-125%.

9. FORM 5B - POST DIGEST SPIKE RECOVERY

A post digest spike was performed for those elements that did not meet the specified criteria (i.e., Pre-digestion/pre-distillation spike recovery falls outside of control limits and sample result is less than four times the spike amount added, exception: Ag, Hg).

Yes___ No___ NA_X_

Comments: A post digestion spike was not required.

10. FORM 6 - DUPLICATE SAMPLE ANALYSIS

Duplicate sample analysis was performed with every twenty or fewer samples of a similar matrix, or one per sample delivery group (whichever is more frequent).

Yes_X_ No___ NA___

Comments: None.

The RPDs were calculated correctly.

Yes_X_ No___ NA___

Comments: None.

For sample concentrations greater than five times the CRQL, RPDs were within ±20% (limits of ±35% apply for soil/sediments/tailings samples).

Yes_X_ No___ NA___

Comments: None.

For sample concentrations less than five times the CRQL, duplicate analysis results were within the control window of ±CRQL (two times CRQL for soils).

Yes_X_ No___ NA___

Comments: None.

11. ICP-MS

The ICP MS tune met SOW requirements.

Yes_X_ No___ NA___

Comments: The ICP MS instrument was correctly tuned prior to analysis and all tuning criteria were met.

The minimum number of internal standards were added to the analyses and bracketed the target analyte masses.

Yes X No

Comments: None.

All percent relative intensities were within 60-125%.

Yes X No

Comments: None.

12. FORM 7 - LABORATORY CONTROL SAMPLE

The laboratory control sample (LCS) was prepared and analyzed with every twenty or fewer samples of a similar matrix, or one per sample delivery group (whichever is more frequent).

Yes X No

Comments: None.

All results were within control limits.

Yes X No

Comments: Results were within 70-130% for these water samples.

The incorrect concentrations were reported for arsenic and one of the zinc LCS results on the LCS summary form. No action was required because the recoveries were verified from the raw data and were reported on the LCS summary form correctly and within QC limits.

13. FORM 8 – SERIAL DILUTION

A serial dilution was performed for ICP analysis with every twenty or fewer samples of a similar matrix, or one per sample delivery group, whichever is more frequent.

Yes X No

Comments: None.

The serial dilution was without interference problems as defined by the SOW.

Yes___ No_X_

Comments: The following serial dilution %D was greater than 10% and the original sample result was at least 50* the MDL:

Element	% Difference	Samples Affected	Qualifiers
Cobalt	15%	All samples	J/UJ

14. FORM 9 - ANNUAL METHOD DETECTION LIMITS (MDL)

MDLs were provided for all elements on the target analyte list.

Yes_X_ No____

Comments: None.

Reported MDLs met SOW requirements.

Yes_X_ No____

Comments: None.

15. FORM 10 - INTERELEMENT CORRECTION FACTORS FOR ICP

Interelement corrections for ICP were reported.

Yes___ No___ NA_X_

Comments: None.

16. FORM 12 - PREPARATION LOG

Information on the preparation of samples for analysis was reported on Form 12.

Yes_X_ No____

Comments: None.

17. FORM 13 - ANALYSIS RUN LOG

A Form 13 with the required information was filled out for each analysis run in the data package.

Yes X No____

Comments: None.

18. Additional Comments or Problems/Resolutions Not Addressed Above

Yes____ No X

Comments: None.

INORGANIC DATA QUALITY ASSURANCE REVIEW

Region VIII

DATA QUALIFIER DEFINITIONS

For the purpose of Data Validation, the following code letters and associated definitions are provided for use by the data validator to summarize the data quality. Use of additional qualifiers should be carefully considered. Definitions for all qualifiers used should be provided with each report.

GENERAL QUALIFIERS for use with both INORGANIC and ORGANIC DATA

R	-	Reported value is "rejected." The data are unusable. Resampling or reanalysis may be necessary to verify the presence or absence of the compound.
J	-	The associated numerical value is an estimated quantity and is the approximate concentration of the analyte in the sample.
J+	-	The associated numerical value is an estimated quantity but the result may be biased high.
J-	-	The associated numerical value is an estimated quantity but the result may be biased low.
U J	-	The reported quantitation limit is estimated because Quality Control criteria were not met. Element or compound may or may not be present in the sample.
N J	-	Estimated value of a tentatively identified compound. (Identified with a CAS number.) ORGANICS analysis only.
U	-	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3BA0

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH3BA0

Matrix: WATER Lab Sample ID: C4463-01

% Solids: Date Received: 11/03/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	12.0	J		MS
7440-36-0	Antimony	2.0	U		MS
7440-38-2	Arsenic	1.0	U		MS
7440-39-3	Barium	2.1	J		MS
7440-41-7	Beryllium	1.0	U		MS
7440-43-9	Cadmium	1.0	U		MS
7440-70-2	Calcium	102	J		MS
7440-47-3	Chromium	0.35	J		MS
7440-48-4	Cobalt	1.0	U	E	MS
7440-50-8	Copper	0.16	J		MS
7439-89-6	Iron	200	U		MS
7439-92-1	Lead	0.27	J		MS
7439-95-4	Magnesium	26.6	J		MS
7439-96-5	Manganese	0.76	J		MS
7440-02-0	Nickel	1.0	U		MS
7440-09-7	Potassium	76.0	J		MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	1.0	U		MS
7440-23-5	Sodium	1380			MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	5.0	U		MS
7440-66-6	Zinc	3.0			MS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3B85

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH3BA0

Matrix: WATER Lab Sample ID: C4463-02

% Solids: Date Received: 11/03/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	441			MS
7440-36-0	Antimony	0.27	J		MS
7440-38-2	Arsenic	27.1			MS
7440-39-3	Barium	1860			MS
7440-41-7	Beryllium	0.32	J		MS
7440-43-9	Cadmium	0.49	J		MS
7440-70-2	Calcium	57000			MS
7440-47-3	Chromium	9.0			MS
7440-48-4	Cobalt	1.1		E	MS
7440-50-8	Copper	6.7			MS
7439-89-6	Iron	2630			MS
7439-92-1	Lead	1.4			MS
7439-95-4	Magnesium	1220000		D	MS
7439-96-5	Manganese	1180			MS
7440-02-0	Nickel	14.4			MS
7440-09-7	Potassium	70600		D	MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	0.15	J		MS
7440-23-5	Sodium	1170000		D	MS
7440-28-0	Thallium	0.13	J		MS
7440-62-2	Vanadium	8.9			MS
7440-66-6	Zinc	8.3			MS

Color Before: BROWN Clarity Before: CLOUDY Texture:

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3B86

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH3BA0

Matrix: WATER Lab Sample ID: C4463-03

% Solids: Date Received: 11/03/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2360			MS
7440-36-0	Antimony	0.60	J		MS
7440-38-2	Arsenic	20.0			MS
7440-39-3	Barium	1360			MS
7440-41-7	Beryllium	0.19	J		MS
7440-43-9	Cadmium	1.0			MS
7440-70-2	Calcium	258000		D	MS
7440-47-3	Chromium	18.5			MS
7440-48-4	Cobalt	2.3		E	MS
7440-50-8	Copper	19.5			MS
7439-89-6	Iron	5090			MS
7439-92-1	Lead	6.6			MS
7439-95-4	Magnesium	172000		D	MS
7439-96-5	Manganese	4780		D	MS
7440-02-0	Nickel	16.2			MS
7440-09-7	Potassium	23400			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	0.38	J		MS
7440-23-5	Sodium	821000		D	MS
7440-28-0	Thallium	0.093	J		MS
7440-62-2	Vanadium	12.4			MS
7440-66-6	Zinc	79.0			MS

Color Before: BROWN Clarity Before: CLOUDY Texture:

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3B87

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH3BA0

Matrix: WATER Lab Sample ID: C4463-04

% Solids: Date Received: 11/03/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7320			MS
7440-36-0	Antimony	0.76	J		MS
7440-38-2	Arsenic	39.3			MS
7440-39-3	Barium	2140			MS
7440-41-7	Beryllium	2.2			MS
7440-43-9	Cadmium	1.1			MS
7440-70-2	Calcium	29500			MS
7440-47-3	Chromium	47.4			MS
7440-48-4	Cobalt	11.6		E	MS
7440-50-8	Copper	89.1			MS
7439-89-6	Iron	30700			MS
7439-92-1	Lead	35.9			MS
7439-95-4	Magnesium	52100			MS
7439-96-5	Manganese	1590			MS
7440-02-0	Nickel	27.0			MS
7440-09-7	Potassium	46200			MS
7782-49-2	Selenium	0.95	J		MS
7440-22-4	Silver	0.35	J		MS
7440-23-5	Sodium	1920000		D	MS
7440-28-0	Thallium	0.10	J		MS
7440-62-2	Vanadium	74.8			MS
7440-66-6	Zinc	77.7			MS

Color Before: BROWN Clarity Before: CLOUDY Texture:

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3B88

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH3BA0

Matrix: WATER Lab Sample ID: C4463-05

% Solids: Date Received: 11/03/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	16700			MS
7440-36-0	Antimony	1.6	J		MS
7440-38-2	Arsenic	40.2			MS
7440-39-3	Barium	3640			MS
7440-41-7	Beryllium	2.2			MS
7440-43-9	Cadmium	0.94	J		MS
7440-70-2	Calcium	277000		D	MS
7440-47-3	Chromium	77.4			MS
7440-48-4	Cobalt	34.4		E	MS
7440-50-8	Copper	177			MS
7439-89-6	Iron	72500		D	MS
7439-92-1	Lead	105			MS
7439-95-4	Magnesium	178000		D	MS
7439-96-5	Manganese	14600		D	MS
7440-02-0	Nickel	49.6			MS
7440-09-7	Potassium	26700			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	0.54	J		MS
7440-23-5	Sodium	797000		D	MS
7440-28-0	Thallium	0.50	J		MS
7440-62-2	Vanadium	40.4			MS
7440-66-6	Zinc	118			MS

Color Before: BROWN Clarity Before: CLOUDY Texture:

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3B89

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH3BA0

Matrix: WATER Lab Sample ID: C4463-06

% Solids: Date Received: 11/03/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	795			MS
7440-36-0	Antimony	4.5			MS
7440-38-2	Arsenic	99.5			MS
7440-39-3	Barium	129			MS
7440-41-7	Beryllium	0.51	J		MS
7440-43-9	Cadmium	0.39	J		MS
7440-70-2	Calcium	77600			MS
7440-47-3	Chromium	32.4			MS
7440-48-4	Cobalt	1.7		E	MS
7440-50-8	Copper	8.0			MS
7439-89-6	Iron	6160			MS
7439-92-1	Lead	2.5			MS
7439-95-4	Magnesium	29600			MS
7439-96-5	Manganese	4750		D	MS
7440-02-0	Nickel	18.6			MS
7440-09-7	Potassium	20300			MS
7782-49-2	Selenium	0.98	J		MS
7440-22-4	Silver	0.10	J		MS
7440-23-5	Sodium	812000		D	MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	151			MS
7440-66-6	Zinc	9.8			MS

Color Before: BROWN Clarity Before: CLOUDY Texture:

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3B90

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH3BA0

Matrix: WATER Lab Sample ID: C4463-07

% Solids: Date Received: 11/03/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7780			MS
7440-36-0	Antimony	2.3			MS
7440-38-2	Arsenic	133			MS
7440-39-3	Barium	945			MS
7440-41-7	Beryllium	0.92	J		MS
7440-43-9	Cadmium	0.79	J		MS
7440-70-2	Calcium	50600			MS
7440-47-3	Chromium	132			MS
7440-48-4	Cobalt	8.3		E	MS
7440-50-8	Copper	96.2			MS
7439-89-6	Iron	27300			MS
7439-92-1	Lead	30.6			MS
7439-95-4	Magnesium	24500			MS
7439-96-5	Manganese	3090		D	MS
7440-02-0	Nickel	40.4			MS
7440-09-7	Potassium	8840			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	0.26	J		MS
7440-23-5	Sodium	694000		D	MS
7440-28-0	Thallium	0.13	J		MS
7440-62-2	Vanadium	92.8			MS
7440-66-6	Zinc	52.2			MS

Color Before: BROWN Clarity Before: CLOUDY Texture:

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3B91

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH3BA0

Matrix: WATER Lab Sample ID: C4463-10

% Solids: Date Received: 11/03/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11300			MS
7440-36-0	Antimony	1.3	J		MS
7440-38-2	Arsenic	101			MS
7440-39-3	Barium	1270			MS
7440-41-7	Beryllium	1.2			MS
7440-43-9	Cadmium	0.82	J		MS
7440-70-2	Calcium	53900			MS
7440-47-3	Chromium	167			MS
7440-48-4	Cobalt	13.5		E	MS
7440-50-8	Copper	112			MS
7439-89-6	Iron	41200			MS
7439-92-1	Lead	37.2			MS
7439-95-4	Magnesium	28200			MS
7439-96-5	Manganese	5910		D	MS
7440-02-0	Nickel	53.4			MS
7440-09-7	Potassium	13600			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	0.30	J		MS
7440-23-5	Sodium	584000		D	MS
7440-28-0	Thallium	0.34	J		MS
7440-62-2	Vanadium	61.0			MS
7440-66-6	Zinc	75.3			MS

Color Before: BROWN Clarity Before: CLOUDY Texture:

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3B92

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH3BA0

Matrix: WATER Lab Sample ID: C4463-11

% Solids: Date Received: 11/03/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1720			MS
7440-36-0	Antimony	1.2	J		MS
7440-38-2	Arsenic	48.1			MS
7440-39-3	Barium	202			MS
7440-41-7	Beryllium	0.41	J		MS
7440-43-9	Cadmium	0.23	J		MS
7440-70-2	Calcium	62500			MS
7440-47-3	Chromium	49.7			MS
7440-48-4	Cobalt	2.4		E	MS
7440-50-8	Copper	39.2			MS
7439-89-6	Iron	40400			MS
7439-92-1	Lead	20.1			MS
7439-95-4	Magnesium	19200			MS
7439-96-5	Manganese	4360		D	MS
7440-02-0	Nickel	11.9			MS
7440-09-7	Potassium	18800			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	0.20	J		MS
7440-23-5	Sodium	481000		D	MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	31.7			MS
7440-66-6	Zinc	11.0			MS

Color Before: BROWN Clarity Before: CLOUDY Texture:

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3B93

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH3BA0

Matrix: WATER Lab Sample ID: C4463-12

% Solids: Date Received: 11/03/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	251			MS
7440-36-0	Antimony	1.4	J		MS
7440-38-2	Arsenic	41.7			MS
7440-39-3	Barium	143			MS
7440-41-7	Beryllium	0.18	J		MS
7440-43-9	Cadmium	1.0	U		MS
7440-70-2	Calcium	56300			MS
7440-47-3	Chromium	4.2			MS
7440-48-4	Cobalt	0.56	J	E	MS
7440-50-8	Copper	6.3			MS
7439-89-6	Iron	4020			MS
7439-92-1	Lead	1.9			MS
7439-95-4	Magnesium	17700			MS
7439-96-5	Manganese	3430		D	MS
7440-02-0	Nickel	5.5			MS
7440-09-7	Potassium	16300			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	0.085	J		MS
7440-23-5	Sodium	515000		D	MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	28.5			MS
7440-66-6	Zinc	13.7			MS

Color Before: BROWN Clarity Before: CLOUDY Texture:

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3B94

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH3BA0

Matrix: WATER Lab Sample ID: C4463-13

% Solids: Date Received: 11/03/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11.6	J		MS
7440-36-0	Antimony	2.0	U		MS
7440-38-2	Arsenic	1.2			MS
7440-39-3	Barium	155			MS
7440-41-7	Beryllium	1.0	U		MS
7440-43-9	Cadmium	1.0	U		MS
7440-70-2	Calcium	73100			MS
7440-47-3	Chromium	0.36	J		MS
7440-48-4	Cobalt	0.12	J	E	MS
7440-50-8	Copper	0.67	J		MS
7439-89-6	Iron	863			MS
7439-92-1	Lead	0.29	J		MS
7439-95-4	Magnesium	25600			MS
7439-96-5	Manganese	8.3			MS
7440-02-0	Nickel	0.53	J		MS
7440-09-7	Potassium	2210			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	1.0	U		MS
7440-23-5	Sodium	42900			MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	0.94	J		MS
7440-66-6	Zinc	7.2			MS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3B95

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH3BA0

Matrix: WATER Lab Sample ID: C4463-14

% Solids: Date Received: 11/03/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7.8	J		MS
7440-36-0	Antimony	2.0	U		MS
7440-38-2	Arsenic	1.4			MS
7440-39-3	Barium	364			MS
7440-41-7	Beryllium	1.0	U		MS
7440-43-9	Cadmium	1.0	U		MS
7440-70-2	Calcium	69000			MS
7440-47-3	Chromium	0.32	J		MS
7440-48-4	Cobalt	0.095	J	E	MS
7440-50-8	Copper	0.80	J		MS
7439-89-6	Iron	191	J		MS
7439-92-1	Lead	0.26	J		MS
7439-95-4	Magnesium	24000			MS
7439-96-5	Manganese	2.1			MS
7440-02-0	Nickel	0.38	J		MS
7440-09-7	Potassium	2030			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	1.0	U		MS
7440-23-5	Sodium	26900			MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	0.73	J		MS
7440-66-6	Zinc	9.4			MS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3B96

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH3BA0

Matrix: WATER Lab Sample ID: C4463-15

% Solids: Date Received: 11/03/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8.6	J		MS
7440-36-0	Antimony	2.0	U		MS
7440-38-2	Arsenic	1.4			MS
7440-39-3	Barium	195			MS
7440-41-7	Beryllium	0.11	J		MS
7440-43-9	Cadmium	1.0	U		MS
7440-70-2	Calcium	70100			MS
7440-47-3	Chromium	0.32	J		MS
7440-48-4	Cobalt	0.13	J	E	MS
7440-50-8	Copper	0.89	J		MS
7439-89-6	Iron	1970			MS
7439-92-1	Lead	0.26	J		MS
7439-95-4	Magnesium	24300			MS
7439-96-5	Manganese	14.9			MS
7440-02-0	Nickel	0.81	J		MS
7440-09-7	Potassium	2090			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	1.0	U		MS
7440-23-5	Sodium	36100			MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	1.3	J		MS
7440-66-6	Zinc	20.2			MS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3B97

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH3BA0

Matrix: WATER Lab Sample ID: C4463-16

% Solids: Date Received: 11/03/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7.8	J		MS
7440-36-0	Antimony	2.0	U		MS
7440-38-2	Arsenic	1.7			MS
7440-39-3	Barium	538			MS
7440-41-7	Beryllium	0.075	J		MS
7440-43-9	Cadmium	1.0	U		MS
7440-70-2	Calcium	63600			MS
7440-47-3	Chromium	0.30	J		MS
7440-48-4	Cobalt	1.0	U	E	MS
7440-50-8	Copper	0.77	J		MS
7439-89-6	Iron	199	J		MS
7439-92-1	Lead	0.55	J		MS
7439-95-4	Magnesium	21700			MS
7439-96-5	Manganese	1.7			MS
7440-02-0	Nickel	0.35	J		MS
7440-09-7	Potassium	1940			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	1.0	U		MS
7440-23-5	Sodium	18400			MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	0.74	J		MS
7440-66-6	Zinc	35.3			MS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3B98

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH3BA0

Matrix: WATER Lab Sample ID: C4463-17

% Solids: Date Received: 11/03/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7290			MS
7440-36-0	Antimony	2.1			MS
7440-38-2	Arsenic	132			MS
7440-39-3	Barium	903			MS
7440-41-7	Beryllium	1.0			MS
7440-43-9	Cadmium	0.88	J		MS
7440-70-2	Calcium	50900			MS
7440-47-3	Chromium	130			MS
7440-48-4	Cobalt	8.3		E	MS
7440-50-8	Copper	89.7			MS
7439-89-6	Iron	27300			MS
7439-92-1	Lead	29.7			MS
7439-95-4	Magnesium	24500			MS
7439-96-5	Manganese	3180		D	MS
7440-02-0	Nickel	39.3			MS
7440-09-7	Potassium	8770			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	0.32	J		MS
7440-23-5	Sodium	719000		D	MS
7440-28-0	Thallium	0.18	J		MS
7440-62-2	Vanadium	93.1			MS
7440-66-6	Zinc	52.7			MS

Color Before: BROWN Clarity Before: CLOUDY Texture:

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3B99

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH3BA0

Matrix: WATER Lab Sample ID: C4463-18

% Solids: Date Received: 11/03/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11.0	J		MS
7440-36-0	Antimony	2.0	U		MS
7440-38-2	Arsenic	1.6			MS
7440-39-3	Barium	539			MS
7440-41-7	Beryllium	1.0	U		MS
7440-43-9	Cadmium	1.0	U		MS
7440-70-2	Calcium	64100			MS
7440-47-3	Chromium	0.24	J		MS
7440-48-4	Cobalt	1.0	U	E	MS
7440-50-8	Copper	0.77	J		MS
7439-89-6	Iron	207			MS
7439-92-1	Lead	0.51	J		MS
7439-95-4	Magnesium	21700			MS
7439-96-5	Manganese	1.6			MS
7440-02-0	Nickel	0.30	J		MS
7440-09-7	Potassium	1960			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	1.0	U		MS
7440-23-5	Sodium	18600			MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	1.0	J		MS
7440-66-6	Zinc	38.2			MS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

REGION VIII
DATA VALIDATION REPORT
INORGANIC

Case/TDD No.	Site Name		Operable Unit
41926 / 1109-07	Smurfit Stone Mill		
RPM/OSC Name			
Robert Parker			
Contractor Laboratory	**Contract No.**	**SDG No.**	**Laboratory DPO/Region**
Chemtech Consulting Group	EP-W-09-038	MH3BA1	

Review Assigned Date: February 9, 2012 Data Validator: Bill Fear
Review Completion Date: February 16, 2012 Report Reviewer: Lisa Tyson

Sample ID	Matrix	Analysis
MH3BA1	Water	CLP - ICP-MS Metals (ISM01.3)
MH3BA2		
MH3BA3		
MH3BA4		
MH3BA5		
MH3BA6		
MH3BA7		
MH3BA8		
MH3BA9		
MH3BB0		
MH3BB1		
MH3BB2		
MH3BB3		
MH3BB4		
MH3BB5		

DATA QUALITY STATEMENT

( ) Data are ACCEPTABLE according to EPA Functional guidelines with no qualifiers (flags) added by the reviewer.
( ) Data are UNACCEPTABLE according to EPA Functional Guidelines.
(X) Data are acceptable with QUALIFICATIONS noted in review.

Telephone/Communication Logs Enclosed? Yes _____ No ___X_____

CLP Project Officer Attention Required? Yes _____ No ___X_____ If yes, list the items that require attention:

INORGANIC DATA VALIDATION REPORT

REVIEW NARRATIVE SUMMARY

This data package was reviewed according to "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review," January 2010.

Raw data were reviewed for completeness and transcription accuracy onto the summary forms. Approximately 10-20% of the results reported in each of the samples, calibrations, and QC analyses were recalculated and verified. If problems were identified during the recalculation of results, a more thorough calculation check was performed.

The data package, SDG No. MH3BA1, consisted of 15 water samples for CLP metals by ISM01.3 ICP-MS. The following table lists the data qualifiers added to the sample analyses. Please see Data Qualifier Definitions, attached to the end of this report.

Sample ID	Elements	Qualifiers	Reason for Qualification	Review Section
MH3BA3, MH3BA4, MH3BA5, MH3BA6, MH3BA7, MH3BA8, MH3BA9, MH3BB4	Antimony	U	Blank contamination	6
MH3BB0, MH3BB1, MH3BB2	Arsenic			
MH3BA1, MH3BA3, MH3BA4, MH3BA5, MH3BA6, MH3BA7, MH3BA8, MH3BA9, MH3BB0, MH3BB3, MH3BB4, MH3BB5	Beryllium			
MH3BA1, MH3BA2, MH3BA3, MH3BA4, MH3BA5, MH3BA6, MH3BA7, MH3BA8, MH3BB4	Cadmium			
MH3BB0, MH3BB1, MH3BB2, MH3BB3, MH3BB5	Chromium			
MH3BA1, MH3BA6, MH3BA9, MH3BB0, MH3BB1, MH3BB2, MH3BB3, MH3BB5	Cobalt			
MH3BA1, MH3BA2, MH3BA4, MH3BB0, MH3BB1, MH3BB2, MH3BB3, MH3BB5	Copper			
MH3BA1, MH3BA2, MH3BA4, MH3BB0, MH3BB1, MH3BB2, MH3BB3	Lead			
MH3BB1, MH3BB2, MH3BB3, MH3BB5	Nickel			
MH3BA1, MH3BA3, MH3BA4, MH3BA5, MH3BA6, MH3BA7, MH3BA8, MH3BB4	Silver			
MH3BA4, MH3BB0, MH3BB3	Thallium			

Sample ID	Elements	Qualifiers	Reason for Qualification	Review Section
MH3BA1, MH3BA4	Beryllium Silver	J+	ICP interference	7
MH3BA4	Thallium			
All samples	Zinc	J	Duplicate criteria not met	10

Positive bias was not assigned to the beryllium, silver, and thallium results because the results were also qualified as not detected due to blank contamination.

Note: Sample MH3BB6 scheduled for dissolved metals analysis was not received by the laboratory and the analysis was canceled.

1. DELIVERABLES

All deliverables were present.

Yes X No____

Comments: None.

2. HOLDING TIMES AND PRESERVATION CRITERIA

All technical holding times and preservation criteria were met.

Yes X No____

Comments: The samples were analyzed within holding times. The sample coolers were received within the recommended temperature range of 4 ± 2 ºC.

According to the case narrative, the samples were initially received with non-CLP IDs and the total and dissolved samples were reported with the same ID. The Region 8 SMO coordinator assigned new CLP IDs to these samples. The total and dissolved samples were assigned unique CLP IDs. The laboratory also noted that sample tags were not included with these samples.

Chain-of-custody, summary forms, and raw data were evaluated.

3. INSTRUMENT CALIBRATIONS: STANDARDS AND BLANKS

The instruments were calibrated daily and each time an analysis run was performed.

Yes X No____

Comments: None.

The instruments were calibrated using one blank and the appropriate number of standards.

Yes X No____

Comments: None.

The correlation coefficient was > 0.995, percent differences were within ±30%, or the y-intercept was <CRQL.

Yes X No____

Comments: None.

4. FORM 1 - SAMPLE ANALYSIS RESULTS

Sample analyses were entered correctly on Form Is.

Yes X No____

Comments: None.

5. FORM 2A - INITIAL AND CONTINUING CALIBRATION VERIFICATION

The initial and continuing calibration verification standards (ICV and CCV, respectively) met SOW requirements.

Yes X No____

Comments: None.

The calibration verification results were within 90-110% recovery for metals.

Yes X No____

Comments: None.

The continuing calibration standards were run every two hours and at the beginning of the run, and again after the last analytical sample.

Yes X No____

Comments: None.

6. FORM 3 - BLANKS

The initial and continuing calibration blanks (ICB and CCB, respectively) frequency met SOW requirements.

Yes X No____

Comments: None.

A laboratory/preparation blank was run at the frequency of one per twenty samples, or per sample delivery group (whichever is more frequent), and for each matrix analyzed.

Yes X No____

Comments: None.

All analyzed blanks were free of contamination.

Yes___ No_X_

Comments: The following table lists the blanks with contamination that resulted in sample qualification, elements present, affected samples, and data qualifiers:

Blank Contaminants

Blank ID	Contaminant	Concentration Found in Blank (ug/L)	Associated Samples	Concentration Found in Sample (ug/L)	Qualifier/ Adjustment
ICB	Antimony	1.024	MH3BA3 MH3BA4 MH3BA5 MH3BA6 MH3BA7 MH3BA8 MH3BA9 MH3BB4	<CRQL <CRQL 4.3 <CRQL <CRQL <CRQL <CRQL 2.1	2.0 U 2.0 U U 2.0 U 2.0 U 2.0 U 2.0 U U
CCB5	Arsenic	0.327	MH3BB0 MH3BB1 MH3BB2	1.0 <CRQL <CRQL	U 1.0 U 1.0 U
ICB	Beryllium	0.174	MH3BA1 MH3BA3 MH3BA4 MH3BA5 MH3BA6 MH3BA7 MH3BA8 MH3BA9 MH3BB0 MH3BB3 MH3BB4 MH3BB5	≤CRQL	1.0 U
CCBs	Cadmium	0.142 0.141	MH3BA1 MH3BA2 MH3BA3 MH3BA4 MH3BA5 MH3BA6 MH3BA7 MH3BA8 MH3BB4		1.0 U
ICB	Chromium	0.134	MH3BB0 MH3BB1 MH3BB2 MH3BB3 MH3BB5		2.0 U
CCBs	Cobalt	0.204 0.182 0.128	MH3BA1 MH3BA6 MH3BA9 MH3BB0 MH3BB1 MH3BB2 MH3BB3 MH3BB5		1.0 U

Blank ID	Contaminant	Concentration Found in Blank (ug/L)	Associated Samples	Concentration Found in Sample (ug/L)	Qualifier/ Adjustment
CCBs	Copper	0.355 0.571 0.434	MH3BA1 MH3BA2 MH3BA4 MH3BB0 MH3BB1 MH3BB2 MH3BB3 MH3BB5	2.3 2.1 2.3 <CRQL <CRQL <CRQL 2.2 <CRQL	U U U 2.0 U 2.0 U 2.0 U U 2.0 U
	Lead	0.232 0.280 0.175	MH3BA1 MH3BA2 MH3BA4 MH3BB0 MH3BB1 MH3BB2 MH3BB3	≤CRQL	1.0 U
	Nickel	0.248 0.350	MH3BB1 MH3BB2 MH3BB3 MH3BB5	1.2 1.1 1.2 1.2	U
	Silver	0.211 0.200	MH3BA1 MH3BA3 MH3BA4 MH3BA5 MH3BA6 MH3BA7 MH3BA8 MH3BB4	≤CRQL	1.0 U
	Thallium	0.244 0.191	MH3BA0 MH3BB0 MH3BB3		1.0 U

7. FORM 4 - ICP INTERFERENCE CHECK SAMPLE

The ICS was analyzed at the beginning of each analysis run but not prior to the Initial Calibration Verification (ICV), and immediately followed by a Continuing Calibration Verification/Continuing Calibration Blank (CCV/CCB).

Yes X No____

Comments: None.

Percent recovery of the analytes in the ICS AB solutions were within the range of 80-120% or the result was within ±2x the CRQL.

Yes X No____

Comments: None.

Sample results for aluminum, calcium, iron, and magnesium were less than the ICSA values.

Yes___ No_X_

Comments: The following sample results were qualified because the results for calcium and / or magnesium were greater than the ICSA value and the absolute value of the associated element was greater than the MDL in the ICSA analysis:

Element	ICSA Result (ug/L)	MDL (ug/L)	Samples Affected	Qualifiers
Beryllium	0.57	0.061	MH3BA1, MH3BA4	J+
Silver	0.082	0.070		
Thallium	0.28	0.074	MH3BA4	

Positive bias was not assigned to the beryllium, silver, and thallium results because the results were also qualified as not detected due to blank contamination.

8. FORM 5A - MATRIX SPIKE SAMPLE ANALYSIS

A matrix spike sample was analyzed with every twenty or fewer samples of a similar matrix, or one per sample delivery group (whichever is more frequent).

Yes_X_ No___ NA___

Comments: None.

The percent recoveries (%Rs) were calculated correctly.

Yes_X_ No___ NA___

Comments: None.

Spike recoveries were within the range of 75-125% (an exception is granted where the sample concentration is four times the spike concentration).

Yes_X_ No___

Comments: All recoveries were within 75-125%.

9. FORM 5B - POST DIGEST SPIKE RECOVERY

A post digest spike was performed for those elements that did not meet the specified criteria (i.e., Pre-digestion/pre-distillation spike recovery falls outside of control limits and sample result is less than four times the spike amount added, exception: Ag, Hg).

Yes___ No___ NA_X_

Comments: A post digestion spike was not required.

10. FORM 6 - DUPLICATE SAMPLE ANALYSIS

Duplicate sample analysis was performed with every twenty or fewer samples of a similar matrix, or one per sample delivery group (whichever is more frequent).

Yes_X_ No___ NA___

Comments: None.

The RPDs were calculated correctly.

Yes_X_ No___ NA___

Comments: None.

For sample concentrations greater than five times the CRQL, RPDs were within ±20% (limits of ±35% apply for soil/sediments/tailings samples).

Yes_X_ No___ NA___

Comments: None.

For sample concentrations less than five times the CRQL, duplicate analysis results were within the control window of ±CRQL (two times CRQL for soils).

Yes___ No_X_ NA___

Comments: The following table lists the duplicate result outside control limits, samples affected, and data qualifiers:

Element	Difference	QC limit	Samples Affected	Qualifiers
Zinc	3.46	2.0	All samples	J

11. ICP-MS

The ICP MS tune met SOW requirements.

Yes X No___ NA___

Comments: The ICP MS instrument was correctly tuned prior to analysis and all tuning criteria were met.

The minimum number of internal standards were added to the analyses and bracketed the target analyte masses.

Yes X No___

Comments: None.

All percent relative intensities were within 60-125%.

Yes X No___

Comments: None.

12. FORM 7 - LABORATORY CONTROL SAMPLE

The laboratory control sample (LCS) was prepared and analyzed with every twenty or fewer samples of a similar matrix, or one per sample delivery group (whichever is more frequent).

Yes X No____

Comments: None.

All results were within control limits.

Yes X No____

Comments: Results were within 70-130% for these water samples.

13. FORM 8 – SERIAL DILUTION

A serial dilution was performed for ICP analysis with every twenty or fewer samples of a similar matrix, or one per sample delivery group, whichever is more frequent.

Yes X No____

Comments: None.

The serial dilution was without interference problems as defined by the SOW.

Yes X No____

Comments: The serial dilution %Ds were less than 10% or the original sample result was less than 50* the MDL.

14. FORM 9 - ANNUAL METHOD DETECTION LIMITS (MDL)

MDLs were provided for all elements on the target analyte list.

Yes X No____

Comments: None.

Reported MDLs met SOW requirements.

Yes X No____

Comments: None.

15. FORM 10 - INTERELEMENT CORRECTION FACTORS FOR ICP

Interelement corrections for ICP were reported.

Yes____ No___ NA X

Comments: None.

16. FORM 12 - PREPARATION LOG

Information on the preparation of samples for analysis was reported on Form 12.

Yes X No____

Comments: None.

17. FORM 13 - ANALYSIS RUN LOG

A Form 13 with the required information was filled out for each analysis run in the data package.

Yes X No____

Comments: None.

18. Additional Comments or Problems/Resolutions Not Addressed Above

Yes___ No_X_

Comments: None.

INORGANIC DATA QUALITY ASSURANCE REVIEW

Region VIII

DATA QUALIFIER DEFINITIONS

For the purpose of Data Validation, the following code letters and associated definitions are provided for use by the data validator to summarize the data quality. Use of additional qualifiers should be carefully considered. Definitions for all qualifiers used should be provided with each report.

GENERAL QUALIFIERS for use with both INORGANIC and ORGANIC DATA

R	-	Reported value is "rejected." The data are unusable. Resampling or reanalysis may be necessary to verify the presence or absence of the compound.
J	-	The associated numerical value is an estimated quantity and is the approximate concentration of the analyte in the sample.
J+	-	The associated numerical value is an estimated quantity but the result may be biased high.
J-	-	The associated numerical value is an estimated quantity but the result may be biased low.
U J	-	The reported quantitation limit is estimated because Quality Control criteria were not met. Element or compound may or may not be present in the sample.
N J	-	Estimated value of a tentatively identified compound. (Identified with a CAS number.) ORGANICS analysis only.
U	-	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3BA1

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH3BA1

Matrix: WATER Lab Sample ID: C4464-01

% Solids: Date Received: 11/03/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	67.8			MS
7440-36-0	Antimony	2.0	U		MS
7440-38-2	Arsenic	26.2			MS
7440-39-3	Barium	1820			MS
7440-41-7	Beryllium	0.17	J		MS
7440-43-9	Cadmium	0.67	J		MS
7440-70-2	Calcium	57000			MS
7440-47-3	Chromium	7.3			MS
7440-48-4	Cobalt	0.95	J		MS
7440-50-8	Copper	2.3			MS
7439-89-6	Iron	1890			MS
7439-92-1	Lead	0.99	J		MS
7439-95-4	Magnesium	1190000		D	MS
7439-96-5	Manganese	1100			MS
7440-02-0	Nickel	13.8			MS
7440-09-7	Potassium	68500		D	MS
7782-49-2	Selenium	1.2	J		MS
7440-22-4	Silver	0.13	J		MS
7440-23-5	Sodium	1090000		D	MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	6.8			MS
7440-66-6	Zinc	2.9		*	MS

Color Before: BROWN Clarity Before: CLEAR Texture:

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3BA2

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH3BA1

Matrix: WATER Lab Sample ID: C4464-02

% Solids: Date Received: 11/03/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	53.7			MS
7440-36-0	Antimony	2.0	U		MS
7440-38-2	Arsenic	16.1			MS
7440-39-3	Barium	1190			MS
7440-41-7	Beryllium	1.0	U		MS
7440-43-9	Cadmium	0.13	J		MS
7440-70-2	Calcium	185000		D	MS
7440-47-3	Chromium	5.8			MS
7440-48-4	Cobalt	1.6			MS
7440-50-8	Copper	2.1			MS
7439-89-6	Iron	1110			MS
7439-92-1	Lead	0.71	J		MS
7439-95-4	Magnesium	154000		D	MS
7439-96-5	Manganese	4530		D	MS
7440-02-0	Nickel	10.2			MS
7440-09-7	Potassium	21000			MS
7782-49-2	Selenium	0.94	J		MS
7440-22-4	Silver	1.0	U		MS
7440-23-5	Sodium	791000		D	MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	7.4			MS
7440-66-6	Zinc	3.0		*	MS

Color Before: BROWN Clarity Before: CLEAR Texture:

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3BA3

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH3BA1

Matrix: WATER Lab Sample ID: C4464-03

% Solids: Date Received: 11/03/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	176			MS
7440-36-0	Antimony	0.35	J		MS
7440-38-2	Arsenic	31.0			MS
7440-39-3	Barium	481			MS
7440-41-7	Beryllium	0.38	J		MS
7440-43-9	Cadmium	0.62	J		MS
7440-70-2	Calcium	21400			MS
7440-47-3	Chromium	37.7			MS
7440-48-4	Cobalt	4.0			MS
7440-50-8	Copper	4.1			MS
7439-89-6	Iron	7250			MS
7439-92-1	Lead	1.4			MS
7439-95-4	Magnesium	51200			MS
7439-96-5	Manganese	726			MS
7440-02-0	Nickel	12.2			MS
7440-09-7	Potassium	47000			MS
7782-49-2	Selenium	1.8	J		MS
7440-22-4	Silver	0.14	J		MS
7440-23-5	Sodium	2020000		D	MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	55.2			MS
7440-66-6	Zinc	4.3		*	MS

Color Before: BROWN Clarity Before: CLOUDY Texture:

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3BA4

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH3BA1

Matrix: WATER Lab Sample ID: C4464-04

% Solids: Date Received: 11/03/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	31.2			MS
7440-36-0	Antimony	0.37	J		MS
7440-38-2	Arsenic	32.4			MS
7440-39-3	Barium	3190			MS
7440-41-7	Beryllium	0.16	J		MS
7440-43-9	Cadmium	0.25	J		MS
7440-70-2	Calcium	292000		D	MS
7440-47-3	Chromium	7.3			MS
7440-48-4	Cobalt	2.1			MS
7440-50-8	Copper	2.3			MS
7439-89-6	Iron	18100			MS
7439-92-1	Lead	0.56	J		MS
7439-95-4	Magnesium	151000		D	MS
7439-96-5	Manganese	9240		D	MS
7440-02-0	Nickel	8.9			MS
7440-09-7	Potassium	23100			MS
7782-49-2	Selenium	1.4	J		MS
7440-22-4	Silver	0.11	J		MS
7440-23-5	Sodium	778000		D	MS
7440-28-0	Thallium	0.091	J		MS
7440-62-2	Vanadium	9.8			MS
7440-66-6	Zinc	3.6		*	MS

Color Before: BROWN Clarity Before: CLOUDY Texture:

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3BA5

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH3BA1

Matrix: WATER Lab Sample ID: C4464-05

% Solids: Date Received: 11/03/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	711			MS
7440-36-0	Antimony	4.3			MS
7440-38-2	Arsenic	95.9			MS
7440-39-3	Barium	121			MS
7440-41-7	Beryllium	0.63	J		MS
7440-43-9	Cadmium	0.44	J		MS
7440-70-2	Calcium	77400			MS
7440-47-3	Chromium	32.2			MS
7440-48-4	Cobalt	2.8			MS
7440-50-8	Copper	4.0			MS
7439-89-6	Iron	6190			MS
7439-92-1	Lead	1.7			MS
7439-95-4	Magnesium	28900			MS
7439-96-5	Manganese	4790		D	MS
7440-02-0	Nickel	19.9			MS
7440-09-7	Potassium	19700			MS
7782-49-2	Selenium	1.7	J		MS
7440-22-4	Silver	0.14	J		MS
7440-23-5	Sodium	766000		D	MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	141			MS
7440-66-6	Zinc	10.4		*	MS

Color Before: BROWN Clarity Before: CLEAR Texture:

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3BA6

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH3BA1

Matrix: WATER Lab Sample ID: C4464-06

% Solids: Date Received: 11/03/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	216			MS
7440-36-0	Antimony	1.4	J		MS
7440-38-2	Arsenic	121			MS
7440-39-3	Barium	600			MS
7440-41-7	Beryllium	0.19	J		MS
7440-43-9	Cadmium	0.33	J		MS
7440-70-2	Calcium	44200			MS
7440-47-3	Chromium	11.6			MS
7440-48-4	Cobalt	0.98	J		MS
7440-50-8	Copper	2.3			MS
7439-89-6	Iron	2910			MS
7439-92-1	Lead	1.2			MS
7439-95-4	Magnesium	19400			MS
7439-96-5	Manganese	1320			MS
7440-02-0	Nickel	14.0			MS
7440-09-7	Potassium	7200			MS
7782-49-2	Selenium	1.1	J		MS
7440-22-4	Silver	0.11	J		MS
7440-23-5	Sodium	693000		D	MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	65.8			MS
7440-66-6	Zinc	10.3		*	MS

Color Before: BROWN Clarity Before: CLOUDY Texture:

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3BA7

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH3BA1

Matrix: WATER Lab Sample ID: C4464-09

% Solids: Date Received: 11/03/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	210			MS
7440-36-0	Antimony	0.75	J		MS
7440-38-2	Arsenic	90.4			MS
7440-39-3	Barium	189			MS
7440-41-7	Beryllium	0.14	J		MS
7440-43-9	Cadmium	0.24	J		MS
7440-70-2	Calcium	47600			MS
7440-47-3	Chromium	10.5			MS
7440-48-4	Cobalt	2.2			MS
7440-50-8	Copper	3.7			MS
7439-89-6	Iron	6630			MS
7439-92-1	Lead	4.6			MS
7439-95-4	Magnesium	20300			MS
7439-96-5	Manganese	4260		D	MS
7440-02-0	Nickel	11.2			MS
7440-09-7	Potassium	10500			MS
7782-49-2	Selenium	0.72	J		MS
7440-22-4	Silver	0.10	J		MS
7440-23-5	Sodium	549000		D	MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	35.7			MS
7440-66-6	Zinc	5.3		*	MS

Color Before: BROWN Clarity Before: CLOUDY Texture:

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3BA8

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH3BA1

Matrix: WATER Lab Sample ID: C4464-10

% Solids: Date Received: 11/03/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	160			MS
7440-36-0	Antimony	0.52	J		MS
7440-38-2	Arsenic	63.3			MS
7440-39-3	Barium	135			MS
7440-41-7	Beryllium	0.088	J		MS
7440-43-9	Cadmium	0.15	J		MS
7440-70-2	Calcium	47400			MS
7440-47-3	Chromium	4.5			MS
7440-48-4	Cobalt	1.3			MS
7440-50-8	Copper	11.7			MS
7439-89-6	Iron	6510			MS
7439-92-1	Lead	8.6			MS
7439-95-4	Magnesium	14600			MS
7439-96-5	Manganese	3630		D	MS
7440-02-0	Nickel	5.4			MS
7440-09-7	Potassium	16600			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	0.097	J		MS
7440-23-5	Sodium	440000		D	MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	32.4			MS
7440-66-6	Zinc	2.7		*	MS

Color Before: BROWN Clarity Before: CLOUDY Texture:

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3BA9

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH3BA1

Matrix: WATER Lab Sample ID: C4464-11

% Solids: Date Received: 11/03/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	260			MS
7440-36-0	Antimony	1.1	J		MS
7440-38-2	Arsenic	42.2			MS
7440-39-3	Barium	143			MS
7440-41-7	Beryllium	0.29	J		MS
7440-43-9	Cadmium	1.0	U		MS
7440-70-2	Calcium	56200			MS
7440-47-3	Chromium	3.4			MS
7440-48-4	Cobalt	0.62	J		MS
7440-50-8	Copper	5.6			MS
7439-89-6	Iron	4070			MS
7439-92-1	Lead	1.7			MS
7439-95-4	Magnesium	17400			MS
7439-96-5	Manganese	3340		D	MS
7440-02-0	Nickel	5.6			MS
7440-09-7	Potassium	16000			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	1.0	U		MS
7440-23-5	Sodium	494000		D	MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	31.4			MS
7440-66-6	Zinc	3.9		*	MS

Color Before: BROWN Clarity Before: CLOUDY Texture:

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3BB0

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH3BA1

Matrix: WATER Lab Sample ID: C4464-12

% Solids: Date Received: 11/03/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	20.0	U		MS
7440-36-0	Antimony	2.0	U		MS
7440-38-2	Arsenic	1.0			MS
7440-39-3	Barium	144			MS
7440-41-7	Beryllium	0.062	J		MS
7440-43-9	Cadmium	1.0	U		MS
7440-70-2	Calcium	68600			MS
7440-47-3	Chromium	0.69	J		MS
7440-48-4	Cobalt	0.14	J		MS
7440-50-8	Copper	1.4	J		MS
7439-89-6	Iron	610			MS
7439-92-1	Lead	0.72	J		MS
7439-95-4	Magnesium	23800			MS
7439-96-5	Manganese	7.9			MS
7440-02-0	Nickel	1.3			MS
7440-09-7	Potassium	2060			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	1.0	U		MS
7440-23-5	Sodium	39100			MS
7440-28-0	Thallium	0.10	J		MS
7440-62-2	Vanadium	5.0	U		MS
7440-66-6	Zinc	7.0		*	MS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3BB1

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH3BA1

Matrix: WATER Lab Sample ID: C4464-13

% Solids: Date Received: 11/03/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	20.0	U		MS
7440-36-0	Antimony	2.0	U		MS
7440-38-2	Arsenic	0.68	J		MS
7440-39-3	Barium	345			MS
7440-41-7	Beryllium	1.0	U		MS
7440-43-9	Cadmium	1.0	U		MS
7440-70-2	Calcium	65900			MS
7440-47-3	Chromium	0.70	J		MS
7440-48-4	Cobalt	0.55	J		MS
7440-50-8	Copper	1.4	J		MS
7439-89-6	Iron	346			MS
7439-92-1	Lead	0.67	J		MS
7439-95-4	Magnesium	22500			MS
7439-96-5	Manganese	3.5			MS
7440-02-0	Nickel	1.2			MS
7440-09-7	Potassium	1930			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	1.0	U		MS
7440-23-5	Sodium	24600			MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	5.0	U		MS
7440-66-6	Zinc	12.7		*	MS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3BB2

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH3BA1

Matrix: WATER Lab Sample ID: C4464-14

% Solids: Date Received: 11/03/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	20.0	U		MS
7440-36-0	Antimony	2.0	U		MS
7440-38-2	Arsenic	0.91	J		MS
7440-39-3	Barium	193			MS
7440-41-7	Beryllium	1.0	U		MS
7440-43-9	Cadmium	1.0	U		MS
7440-70-2	Calcium	68400			MS
7440-47-3	Chromium	0.51	J		MS
7440-48-4	Cobalt	0.30	J		MS
7440-50-8	Copper	1.5	J		MS
7439-89-6	Iron	958			MS
7439-92-1	Lead	0.58	J		MS
7439-95-4	Magnesium	23800			MS
7439-96-5	Manganese	12.0			MS
7440-02-0	Nickel	1.1			MS
7440-09-7	Potassium	2020			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	1.0	U		MS
7440-23-5	Sodium	35200			MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	5.0	U		MS
7440-66-6	Zinc	14.6		*	MS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3BB3

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH3BA1

Matrix: WATER Lab Sample ID: C4464-15

% Solids: Date Received: 11/03/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3.0	J		MS
7440-36-0	Antimony	2.0	U		MS
7440-38-2	Arsenic	1.9			MS
7440-39-3	Barium	520			MS
7440-41-7	Beryllium	0.11	J		MS
7440-43-9	Cadmium	1.0	U		MS
7440-70-2	Calcium	61300			MS
7440-47-3	Chromium	0.81	J		MS
7440-48-4	Cobalt	0.44	J		MS
7440-50-8	Copper	2.2			MS
7439-89-6	Iron	333			MS
7439-92-1	Lead	0.83	J		MS
7439-95-4	Magnesium	20800			MS
7439-96-5	Manganese	3.4			MS
7440-02-0	Nickel	1.2			MS
7440-09-7	Potassium	2000			MS
7782-49-2	Selenium	0.69	J		MS
7440-22-4	Silver	1.0	U		MS
7440-23-5	Sodium	17500			MS
7440-28-0	Thallium	0.11	J		MS
7440-62-2	Vanadium	5.0	U		MS
7440-66-6	Zinc	39.8		*	MS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3BB4

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH3BA1

Matrix: WATER Lab Sample ID: C4464-16

% Solids: Date Received: 11/03/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	264			MS
7440-36-0	Antimony	2.1			MS
7440-38-2	Arsenic	109			MS
7440-39-3	Barium	495			MS
7440-41-7	Beryllium	0.30	J		MS
7440-43-9	Cadmium	0.57	J		MS
7440-70-2	Calcium	39600			MS
7440-47-3	Chromium	13.1			MS
7440-48-4	Cobalt	1.2			MS
7440-50-8	Copper	2.9			MS
7439-89-6	Iron	2350			MS
7439-92-1	Lead	2.2			MS
7439-95-4	Magnesium	17200			MS
7439-96-5	Manganese	1180			MS
7440-02-0	Nickel	13.7			MS
7440-09-7	Potassium	7130			MS
7782-49-2	Selenium	1.4	J		MS
7440-22-4	Silver	0.19	J		MS
7440-23-5	Sodium	675000		D	MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	67.4			MS
7440-66-6	Zinc	6.7		*	MS

Color Before: BROWN Clarity Before: CLEAR Texture:

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3BB5

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH3BA1

Matrix: WATER Lab Sample ID: C4464-17

% Solids: Date Received: 11/03/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	20.0	U		MS
7440-36-0	Antimony	2.0	U		MS
7440-38-2	Arsenic	1.3			MS
7440-39-3	Barium	500			MS
7440-41-7	Beryllium	0.14	J		MS
7440-43-9	Cadmium	1.0	U		MS
7440-70-2	Calcium	59400			MS
7440-47-3	Chromium	0.80	J		MS
7440-48-4	Cobalt	1.0			MS
7440-50-8	Copper	1.8	J		MS
7439-89-6	Iron	293			MS
7439-92-1	Lead	1.2			MS
7439-95-4	Magnesium	20100			MS
7439-96-5	Manganese	3.9			MS
7440-02-0	Nickel	1.2			MS
7440-09-7	Potassium	1820			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	1.0	U		MS
7440-23-5	Sodium	17600			MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	5.0	U		MS
7440-66-6	Zinc	36.3		*	MS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

REGION VIII
DATA VALIDATION REPORT
INORGANIC

Case/TDD No.	Site Name		Operable Unit
41926 / 1109-07	Smurfit Stone Mill		
RPM/OSC Name			
Robert Parker			
Contractor Laboratory	**Contract No.**	**SDG No.**	**Laboratory DPO/Region**
Chemtech Consulting Group	EP-W-09-038	MH30T9	

Review Assigned Date: February 9, 2012 Data Validator: Bill Fear
Review Completion Date: February 16, 2012 Report Reviewer: Lisa Tyson

Sample ID	Matrix	Analysis
MH30T9	Water	CLP - ICP-MS Metals (ISM01.3)
MH30W0		
MH30W1		
MH30W2		
MH30W3		
MH30W4		
MH30W5		
MH30W6		
MH30W7		
MH30W8		
MH30X0		
MH30X1		
MH30Y2		
MH30Y3		
MH30Y4		
MH30Y5		
MH30Y6		
MH30Z6		

DATA QUALITY STATEMENT

( ) Data are ACCEPTABLE according to EPA Functional guidelines with no qualifiers (flags) added by the reviewer.
( ) Data are UNACCEPTABLE according to EPA Functional Guidelines.
(X) Data are acceptable with QUALIFICATIONS noted in review.

Telephone/Communication Logs Enclosed? Yes _____ No ___X_____

CLP Project Officer Attention Required? Yes _____ No ___X_____ If yes, list the items that require attention:

INORGANIC DATA VALIDATION REPORT

REVIEW NARRATIVE SUMMARY

This data package was reviewed according to "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review," January 2010.

Raw data were reviewed for completeness and transcription accuracy onto the summary forms. Approximately 10-20% of the results reported in each of the samples, calibrations, and QC analyses were recalculated and verified. If problems were identified during the recalculation of results, a more thorough calculation check was performed.

The data package, SDG No. MH30T9, consisted of 18 water samples for CLP metals by ISM01.3 ICP-MS. The following table lists the data qualifiers added to the sample analyses. Please see Data Qualifier Definitions, attached to the end of this report.

Sample ID	Elements	Qualifiers	Reason for Qualification	Review Section
MH30X0, MH30X1, MH30Z6	Aluminum	U	Blank contamination	6
MH30W3, MH30W4, MH30W5, MH30W6, MH30W8, MH30Y2, MH30Y3, MH30Y4, MH30Y5, MH30Y6, MH30Z6	Antimony			
MH30X1	Arsenic			
MH30Y6	Beryllium			
MH30Y2, MH30Y3, MH30Y4	Cadmium			
MH30T9, MH30W0, MH30W1, MH30W2, MH30W3, MH30W4, MH30W5, MH30W6, MH30W7, MH30W8, MH30X0, MH30X1, MH30Z6	Chromium			
All samples	Cobalt			
MH30T9, MH30W0, MH30W1, MH30X0, MH30X1, MH30Z6	Copper			
MH30W2, MH30W3, MH30W4, MH30W5, MH30W6, MH30W7, MH30W8, MH30X0	Iron			
MH30T9, MH30W0, MH30W1, MH30W2, MH30W3, MH30W4, MH30W5, MH30W7, MH30W8, MH30X0, MH30X1, MH30Y2, MH30Y3, MH30Y4, MH30Y5, MH30Z6	Lead			
MH30X0, MH30Z6	Manganese			
MH30Y2	Silver			
MH30W3, MH30Y2	Thallium			

Sample ID	Elements	Qualifiers	Reason for Qualification	Review Section
MH30T9, MH30W0, MH30W1, MH30W2, MH30W3, MH30W4, MH30W5, MH30W6, MH30W7, MH30W8, MH30X0, MH30X1, MH30Z6	Vanadium	U	Blank contamination	6
MH30X0	Zinc			

1. DELIVERABLES

All deliverables were present.

Yes X No____

Comments: None.

2. HOLDING TIMES AND PRESERVATION CRITERIA

All technical holding times and preservation criteria were met.

Yes X No____

Comments: The samples were analyzed within holding times. The sample coolers were received within the recommended temperature range of 4 ± 2 ºC.

The laboratory noted that sample tags were not included with these samples. Chain-of-custody, summary forms, and raw data were evaluated.

3. INSTRUMENT CALIBRATIONS: STANDARDS AND BLANKS

The instruments were calibrated daily and each time an analysis run was performed.

Yes X No____

Comments: None.

The instruments were calibrated using one blank and the appropriate number of standards.

Yes X No____

Comments: None.

The correlation coefficient was > 0.995, percent differences were within ±30%, or the y-intercept was <CRQL.

Yes X No____

Comments: None.

4. FORM 1 - SAMPLE ANALYSIS RESULTS

Sample analyses were entered correctly on Form Is.

Yes X No____

Comments: None.

5. FORM 2A - INITIAL AND CONTINUING CALIBRATION VERIFICATION

The initial and continuing calibration verification standards (ICV and CCV, respectively) met SOW requirements.

Yes X No____

Comments: None.

The calibration verification results were within 90-110% recovery for metals.

Yes X No____

Comments: None.

The continuing calibration standards were run every two hours and at the beginning of the run, and again after the last analytical sample.

Yes X No____

Comments: None.

6. FORM 3 - BLANKS

The initial and continuing calibration blanks (ICB and CCB, respectively) frequency met SOW requirements.

Yes X No____

Comments: None.

A laboratory/preparation blank was run at the frequency of one per twenty samples, or per sample delivery group (whichever is more frequent), and for each matrix analyzed.

Yes X No____

Comments: None.

All analyzed blanks were free of contamination.

Yes___ No_X_

Comments: The following table lists the blanks with contamination that resulted in sample qualification, elements present, affected samples, and data qualifiers:

Blank Contaminants

Blank ID	Contaminant	Concentration Found in Blank (ug/L)	Associated Samples	Concentration Found in Sample (ug/L)	Qualifier/ Adjustment
ICB	Aluminum	2.646	MH30X0 MH30X1 MH30Z6	≤CRQL	20.0 U
	Antimony	0.98	MH30W3 MH30W4 MH30W5 MH30W6 MH30W8 MH30Y2 MH30Y3 MH30Y4 MH30Y5 MH30Y6 MH30Z6		2.0 U
	Arsenic	0.226	MH30X1		U
	Beryllium	0.100	MH30Y6		1.0 U
	Cadmium	0.19	MH30Y2 MH30Y3 MH30Y4		1.0 U
	Chromium	0.095	MH30T9 MH30W0 MH30W1 MH30W2 MH30W3 MH30W4 MH30W5 MH30W6 MH30W7 MH30W8 MH30X0 MH30X1 MH30Z6		2.0 U
	Cobalt	0.160	All samples		1.0 U
	Copper	0.250	MH30T9 MH30W0 MH30W1 MH30X0 MH30X1 MH30Z6		2.0 U
	Iron	7.861	MH30W2 MH30W3 MH30W4 MH30W5 MH30W6 MH30W7 MH30W8 MH30X0		200 U

Blank ID	Contaminant	Concentration Found in Blank (ug/L)	Associated Samples	Concentration Found in Sample (ug/L)	Qualifier/ Adjustment
ICB	Lead	0.224	MH30T9 MH30W0 MH30W1 MH30W2 MH30W3 MH30W4 MH30W5 MH30W7 MH30W8 MH30X0 MH30X1 MH30Y2 MH30Y3 MH30Y4 MH30Y5 MH30Z6	≤CRQL	1.0 U
	Manganese	0.230	MH30X0 MH30Z6		1.0 U U
	Silver	0.152	MH30Y2		1.0 U
	Thallium	0.245	MH30W3 MH30Y2		1.0 U
	Vanadium	0.102	MH30T9 MH30W0 MH30W1 MH30W2 MH30W3 MH30W4 MH30W5 MH30W6 MH30W7 MH30W8 MH30X0 MH30X1 MH30Z6		5.0 U
	Zinc	0.402	MH30X0		2.0 U

7. FORM 4 - ICP INTERFERENCE CHECK SAMPLE

The ICS was analyzed at the beginning of each analysis run but not prior to the Initial Calibration Verification (ICV), and immediately followed by a Continuing Calibration Verification/Continuing Calibration Blank (CCV/CCB).

Yes X No____

Comments: None.

Percent recovery of the analytes in the ICS AB solutions were within the range of 80-120% or the result was within ±2x the CRQL.

Yes X No____

Comments: None.

Sample results for aluminum, calcium, iron, and magnesium were less than the ICSA values.

Yes___ No_X_

Comments: The result for calcium in sample MH30Z6 was greater than the ICSA value and the absolute value of the associated element was greater than the MDL in the ICSA analysis:

Element	ICSA Result (ug/L)	MDL (ug/L)	Samples Affected	Qualifiers
Beryllium	0.27	0.061	None	None
Thallium	0.093	0.074		

No action was required for the positive interference because beryllium and thallium were not detected in sample MH30Z6.

8. FORM 5A - MATRIX SPIKE SAMPLE ANALYSIS

A matrix spike sample was analyzed with every twenty or fewer samples of a similar matrix, or one per sample delivery group (whichever is more frequent).

Yes_X_ No___ NA____

Comments: None.

The percent recoveries (%Rs) were calculated correctly.

Yes_X_ No___ NA____

Comments: None.

Spike recoveries were within the range of 75-125% (an exception is granted where the sample concentration is four times the spike concentration).

Yes_X_ No____

Comments: All recoveries were within 75-125%. [Note: The case narrative incorrectly stated that recovery for chromium did not meet the spike QC limits.]

9. FORM 5B - POST DIGEST SPIKE RECOVERY

A post digest spike was performed for those elements that did not meet the specified criteria (i.e., Pre-digestion/pre-distillation spike recovery falls outside of control limits and sample result is less than four times the spike amount added, exception: Ag, Hg).

Yes___ No___ NA_X_

Comments: A post digestion spike was not required.

10. FORM 6 - DUPLICATE SAMPLE ANALYSIS

Duplicate sample analysis was performed with every twenty or fewer samples of a similar matrix, or one per sample delivery group (whichever is more frequent).

Yes_X_ No___ NA___

Comments: None.

The RPDs were calculated correctly.

Yes_X_ No___ NA___

Comments: None.

For sample concentrations greater than five times the CRQL, RPDs were within ±20% (limits of ±35% apply for soil/sediments/tailings samples).

Yes_X_ No___ NA___

Comments: None.

For sample concentrations less than five times the CRQL, duplicate analysis results were within the control window of ±CRQL (two times CRQL for soils).

Yes_X_ No___ NA___

Comments: None.

11. ICP-MS

The ICP MS tune met SOW requirements.

Yes_X_ No___ NA___

Comments: The ICP MS instrument was correctly tuned prior to analysis and all tuning criteria were met.

The minimum number of internal standards were added to the analyses and bracketed the target analyte masses.

Yes X No

Comments: None.
All percent relative intensities were within 60-125%.

Yes X No

Comments: None.

12. FORM 7 - LABORATORY CONTROL SAMPLE

The laboratory control sample (LCS) was prepared and analyzed with every twenty or fewer samples of a similar matrix, or one per sample delivery group (whichever is more frequent).

Yes X No

Comments: None.

All results were within control limits.

Yes X No

Comments: Results were within 70-130% for these water samples.

13. FORM 8 – SERIAL DILUTION

A serial dilution was performed for ICP analysis with every twenty or fewer samples of a similar matrix, or one per sample delivery group, whichever is more frequent.

Yes X No

Comments: None.

The serial dilution was without interference problems as defined by the SOW.

Yes X No

Comments: The serial dilution %Ds were less than 10% or the original sample result was less than 50* the MDL.

14. FORM 9 - ANNUAL METHOD DETECTION LIMITS (MDL)

MDLs were provided for all elements on the target analyte list.

Yes X No____

Comments: None.

Reported MDLs met SOW requirements.

Yes X No____

Comments: None.

15. FORM 10 - INTERELEMENT CORRECTION FACTORS FOR ICP

Interelement corrections for ICP were reported.

Yes____ No___ NA X

Comments: None.

16. FORM 12 - PREPARATION LOG

Information on the preparation of samples for analysis was reported on Form 12.

Yes X No____

Comments: None.

17. FORM 13 - ANALYSIS RUN LOG

A Form 13 with the required information was filled out for each analysis run in the data package.

Yes X No____

Comments: None.

18. Additional Comments or Problems/Resolutions Not Addressed Above

Yes____ No X

Comments: None.

INORGANIC DATA QUALITY ASSURANCE REVIEW

Region VIII

DATA QUALIFIER DEFINITIONS

For the purpose of Data Validation, the following code letters and associated definitions are provided for use by the data validator to summarize the data quality. Use of additional qualifiers should be carefully considered. Definitions for all qualifiers used should be provided with each report.

GENERAL QUALIFIERS for use with both INORGANIC and ORGANIC DATA

R	-	Reported value is "rejected." The data are unusable. Resampling or reanalysis may be necessary to verify the presence or absence of the compound.
J	-	The associated numerical value is an estimated quantity and is the approximate concentration of the analyte in the sample.
J+	-	The associated numerical value is an estimated quantity but the result may be biased high.
J-	-	The associated numerical value is an estimated quantity but the result may be biased low.
U J	-	The reported quantitation limit is estimated because Quality Control criteria were not met. Element or compound may or may not be present in the sample.
N J	-	Estimated value of a tentatively identified compound. (Identified with a CAS number.) ORGANICS analysis only.
U	-	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH30T9

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30T9

Matrix: WATER Lab Sample ID: C4368-01

% Solids: Date Received: 10/28/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	147			MS
7440-36-0	Antimony	2.0	U		MS
7440-38-2	Arsenic	1.7			MS
7440-39-3	Barium	167			MS
7440-41-7	Beryllium	1.0	U		MS
7440-43-9	Cadmium	1.0	U		MS
7440-70-2	Calcium	26900			MS
7440-47-3	Chromium	0.30	J		MS
7440-48-4	Cobalt	0.13	J		MS
7440-50-8	Copper	1.5	J		MS
7439-89-6	Iron	218			MS
7439-92-1	Lead	0.32	J		MS
7439-95-4	Magnesium	11600			MS
7439-96-5	Manganese	6.4			MS
7440-02-0	Nickel	0.70	J		MS
7440-09-7	Potassium	2340			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	1.0	U		MS
7440-23-5	Sodium	13800			MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	0.72	J		MS
7440-66-6	Zinc	4.8			MS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH30W0

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30T9

Matrix: WATER Lab Sample ID: C4368-02

% Solids: Date Received: 10/28/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	149			MS
7440-36-0	Antimony	2.0	U		MS
7440-38-2	Arsenic	1.8			MS
7440-39-3	Barium	169			MS
7440-41-7	Beryllium	1.0	U		MS
7440-43-9	Cadmium	1.0	U		MS
7440-70-2	Calcium	27900			MS
7440-47-3	Chromium	0.42	J		MS
7440-48-4	Cobalt	0.16	J		MS
7440-50-8	Copper	1.7	J		MS
7439-89-6	Iron	224			MS
7439-92-1	Lead	0.37	J		MS
7439-95-4	Magnesium	11800			MS
7439-96-5	Manganese	7.7			MS
7440-02-0	Nickel	0.62	J		MS
7440-09-7	Potassium	2430			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	1.0	U		MS
7440-23-5	Sodium	14300			MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	0.85	J		MS
7440-66-6	Zinc	3.1			MS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH30W1

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30T9

Matrix: WATER Lab Sample ID: C4368-03

% Solids: Date Received: 10/28/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	131			MS
7440-36-0	Antimony	2.0	U		MS
7440-38-2	Arsenic	1.8			MS
7440-39-3	Barium	168			MS
7440-41-7	Beryllium	1.0	U		MS
7440-43-9	Cadmium	1.0	U		MS
7440-70-2	Calcium	27400			MS
7440-47-3	Chromium	0.17	J		MS
7440-48-4	Cobalt	0.15	J		MS
7440-50-8	Copper	1.8	J		MS
7439-89-6	Iron	214			MS
7439-92-1	Lead	0.42	J		MS
7439-95-4	Magnesium	11800			MS
7439-96-5	Manganese	9.0			MS
7440-02-0	Nickel	0.69	J		MS
7440-09-7	Potassium	2430			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	1.0	U		MS
7440-23-5	Sodium	14600			MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	0.79	J		MS
7440-66-6	Zinc	4.2			MS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH30W2

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30T9

Matrix: WATER Lab Sample ID: C4368-04

% Solids: Date Received: 10/28/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	37.1			MS
7440-36-0	Antimony	2.0	U		MS
7440-38-2	Arsenic	2.7			MS
7440-39-3	Barium	93.3			MS
7440-41-7	Beryllium	1.0	U		MS
7440-43-9	Cadmium	1.0	U		MS
7440-70-2	Calcium	29600			MS
7440-47-3	Chromium	0.42	J		MS
7440-48-4	Cobalt	0.085	J		MS
7440-50-8	Copper	3.6			MS
7439-89-6	Iron	155	J		MS
7439-92-1	Lead	0.49	J		MS
7439-95-4	Magnesium	8350			MS
7439-96-5	Manganese	23.3			MS
7440-02-0	Nickel	0.56	J		MS
7440-09-7	Potassium	1790			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	1.0	U		MS
7440-23-5	Sodium	6420			MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	0.66	J		MS
7440-66-6	Zinc	6.8			MS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH30W3

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30T9

Matrix: WATER Lab Sample ID: C4368-05

% Solids: Date Received: 10/28/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	35.7			MS
7440-36-0	Antimony	0.35	J		MS
7440-38-2	Arsenic	2.8			MS
7440-39-3	Barium	94.3			MS
7440-41-7	Beryllium	1.0	U		MS
7440-43-9	Cadmium	1.0	U		MS
7440-70-2	Calcium	29700			MS
7440-47-3	Chromium	0.23	J		MS
7440-48-4	Cobalt	0.16	J		MS
7440-50-8	Copper	3.2			MS
7439-89-6	Iron	155	J		MS
7439-92-1	Lead	0.48	J		MS
7439-95-4	Magnesium	8420			MS
7439-96-5	Manganese	43.5			MS
7440-02-0	Nickel	0.47	J		MS
7440-09-7	Potassium	1880			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	1.0	U		MS
7440-23-5	Sodium	8190			MS
7440-28-0	Thallium	0.079	J		MS
7440-62-2	Vanadium	0.92	J		MS
7440-66-6	Zinc	7.4			MS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH30W4

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30T9

Matrix: WATER Lab Sample ID: C4368-06

% Solids: Date Received: 10/28/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	34.1			MS
7440-36-0	Antimony	0.26	J		MS
7440-38-2	Arsenic	2.9			MS
7440-39-3	Barium	93.2			MS
7440-41-7	Beryllium	1.0	U		MS
7440-43-9	Cadmium	1.0	U		MS
7440-70-2	Calcium	29200			MS
7440-47-3	Chromium	0.28	J		MS
7440-48-4	Cobalt	0.11	J		MS
7440-50-8	Copper	3.3			MS
7439-89-6	Iron	154	J		MS
7439-92-1	Lead	0.56	J		MS
7439-95-4	Magnesium	8430			MS
7439-96-5	Manganese	40.9			MS
7440-02-0	Nickel	0.45	J		MS
7440-09-7	Potassium	1870			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	1.0	U		MS
7440-23-5	Sodium	8600			MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	0.82	J		MS
7440-66-6	Zinc	6.1			MS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH30W5

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30T9

Matrix: WATER Lab Sample ID: C4368-07

% Solids: Date Received: 10/28/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	34.4			MS
7440-36-0	Antimony	0.20	J		MS
7440-38-2	Arsenic	2.7			MS
7440-39-3	Barium	90.7			MS
7440-41-7	Beryllium	1.0	U		MS
7440-43-9	Cadmium	1.0	U		MS
7440-70-2	Calcium	28700			MS
7440-47-3	Chromium	0.22	J		MS
7440-48-4	Cobalt	0.071	J		MS
7440-50-8	Copper	3.6			MS
7439-89-6	Iron	165	J		MS
7439-92-1	Lead	0.49	J		MS
7439-95-4	Magnesium	8170			MS
7439-96-5	Manganese	28.9			MS
7440-02-0	Nickel	0.36	J		MS
7440-09-7	Potassium	1790			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	1.0	U		MS
7440-23-5	Sodium	6850			MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	0.64	J		MS
7440-66-6	Zinc	5.7			MS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH30W6

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30T9

Matrix: WATER Lab Sample ID: C4368-08

% Solids: Date Received: 10/28/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	45.0			MS
7440-36-0	Antimony	0.19	J		MS
7440-38-2	Arsenic	3.1			MS
7440-39-3	Barium	94.4			MS
7440-41-7	Beryllium	1.0	U		MS
7440-43-9	Cadmium	1.0	U		MS
7440-70-2	Calcium	30300			MS
7440-47-3	Chromium	0.44	J		MS
7440-48-4	Cobalt	0.088	J		MS
7440-50-8	Copper	3.8			MS
7439-89-6	Iron	171	J		MS
7439-92-1	Lead	2.1			MS
7439-95-4	Magnesium	8710			MS
7439-96-5	Manganese	48.0			MS
7440-02-0	Nickel	0.52	J		MS
7440-09-7	Potassium	1950			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	1.0	U		MS
7440-23-5	Sodium	15600			MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	1.1	J		MS
7440-66-6	Zinc	7.2			MS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH30W7

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30T9

Matrix: WATER Lab Sample ID: C4368-09

% Solids: Date Received: 10/28/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	37.5			MS
7440-36-0	Antimony	2.0	U		MS
7440-38-2	Arsenic	2.6			MS
7440-39-3	Barium	90.8			MS
7440-41-7	Beryllium	1.0	U		MS
7440-43-9	Cadmium	1.0	U		MS
7440-70-2	Calcium	28600			MS
7440-47-3	Chromium	0.21	J		MS
7440-48-4	Cobalt	0.072	J		MS
7440-50-8	Copper	2.9			MS
7439-89-6	Iron	143	J		MS
7439-92-1	Lead	0.36	J		MS
7439-95-4	Magnesium	8200			MS
7439-96-5	Manganese	24.1			MS
7440-02-0	Nickel	0.46	J		MS
7440-09-7	Potassium	1790			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	1.0	U		MS
7440-23-5	Sodium	7540			MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	0.82	J		MS
7440-66-6	Zinc	5.4			MS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH30W8

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30T9

Matrix: WATER Lab Sample ID: C4368-10

% Solids: Date Received: 10/28/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	65.6			MS
7440-36-0	Antimony	0.18	J		MS
7440-38-2	Arsenic	3.0			MS
7440-39-3	Barium	87.5			MS
7440-41-7	Beryllium	1.0	U		MS
7440-43-9	Cadmium	1.0	U		MS
7440-70-2	Calcium	28000			MS
7440-47-3	Chromium	0.27	J		MS
7440-48-4	Cobalt	0.097	J		MS
7440-50-8	Copper	4.4			MS
7439-89-6	Iron	166	J		MS
7439-92-1	Lead	0.54	J		MS
7439-95-4	Magnesium	8130			MS
7439-96-5	Manganese	27.2			MS
7440-02-0	Nickel	0.43	J		MS
7440-09-7	Potassium	1740			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	1.0	U		MS
7440-23-5	Sodium	8560			MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	0.89	J		MS
7440-66-6	Zinc	8.8			MS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH30X0

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30T9

Matrix: WATER Lab Sample ID: C4368-13

% Solids: Date Received: 10/29/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6.7	J		MS
7440-36-0	Antimony	2.0	U		MS
7440-38-2	Arsenic	1.6			MS
7440-39-3	Barium	293			MS
7440-41-7	Beryllium	1.0	U		MS
7440-43-9	Cadmium	1.0	U		MS
7440-70-2	Calcium	49300			MS
7440-47-3	Chromium	0.78	J		MS
7440-48-4	Cobalt	0.074	J		MS
7440-50-8	Copper	1.5	J		MS
7439-89-6	Iron	138	J		MS
7439-92-1	Lead	0.076	J		MS
7439-95-4	Magnesium	17900			MS
7439-96-5	Manganese	0.39	J		MS
7440-02-0	Nickel	1.0			MS
7440-09-7	Potassium	4950			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	1.0	U		MS
7440-23-5	Sodium	10400			MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	0.83	J		MS
7440-66-6	Zinc	2.0	J		MS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH30X1

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30T9

Matrix: WATER Lab Sample ID: C4368-14

% Solids: Date Received: 10/29/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7.4	J		MS
7440-36-0	Antimony	2.0	U		MS
7440-38-2	Arsenic	1.0			MS
7440-39-3	Barium	284			MS
7440-41-7	Beryllium	1.0	U		MS
7440-43-9	Cadmium	1.0	U		MS
7440-70-2	Calcium	62000			MS
7440-47-3	Chromium	0.33	J		MS
7440-48-4	Cobalt	0.090	J		MS
7440-50-8	Copper	0.78	J		MS
7439-89-6	Iron	211			MS
7439-92-1	Lead	0.25	J		MS
7439-95-4	Magnesium	19900			MS
7439-96-5	Manganese	7.1			MS
7440-02-0	Nickel	0.62	J		MS
7440-09-7	Potassium	2420			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	1.0	U		MS
7440-23-5	Sodium	11000			MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	0.90	J		MS
7440-66-6	Zinc	57.6			MS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH30Y2

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30T9

Matrix: WATER Lab Sample ID: C4368-15

% Solids: Date Received: 10/29/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	96.9			MS
7440-36-0	Antimony	0.82	J		MS
7440-38-2	Arsenic	35.9			MS
7440-39-3	Barium	110			MS
7440-41-7	Beryllium	1.0	U		MS
7440-43-9	Cadmium	0.23	J		MS
7440-70-2	Calcium	64000			MS
7440-47-3	Chromium	3.5			MS
7440-48-4	Cobalt	0.79	J		MS
7440-50-8	Copper	6.5			MS
7439-89-6	Iron	1070			MS
7439-92-1	Lead	0.85	J		MS
7439-95-4	Magnesium	17100			MS
7439-96-5	Manganese	1750			MS
7440-02-0	Nickel	5.1			MS
7440-09-7	Potassium	13500			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	0.11	J		MS
7440-23-5	Sodium	439000		D	MS
7440-28-0	Thallium	0.14	J		MS
7440-62-2	Vanadium	22.0			MS
7440-66-6	Zinc	12.8			MS

Color Before: BROWN Clarity Before: CLEAR Texture:

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH30Y3

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30T9

Matrix: WATER Lab Sample ID: C4368-16

% Solids: Date Received: 10/29/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	255			MS
7440-36-0	Antimony	0.60	J		MS
7440-38-2	Arsenic	14.9			MS
7440-39-3	Barium	98.1			MS
7440-41-7	Beryllium	1.0	U		MS
7440-43-9	Cadmium	0.17	J		MS
7440-70-2	Calcium	47500			MS
7440-47-3	Chromium	5.1			MS
7440-48-4	Cobalt	0.44	J		MS
7440-50-8	Copper	2.9			MS
7439-89-6	Iron	789			MS
7439-92-1	Lead	0.61	J		MS
7439-95-4	Magnesium	15200			MS
7439-96-5	Manganese	2820		D	MS
7440-02-0	Nickel	3.6			MS
7440-09-7	Potassium	19600			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	1.0	U		MS
7440-23-5	Sodium	510000		D	MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	21.7			MS
7440-66-6	Zinc	3.0			MS

Color Before: BROWN Clarity Before: CLEAR Texture:

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH30Y4

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30T9

Matrix: WATER Lab Sample ID: C4368-17

% Solids: Date Received: 10/29/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	250			MS
7440-36-0	Antimony	0.41	J		MS
7440-38-2	Arsenic	17.6			MS
7440-39-3	Barium	89.5			MS
7440-41-7	Beryllium	1.0	U		MS
7440-43-9	Cadmium	0.15	J		MS
7440-70-2	Calcium	49700			MS
7440-47-3	Chromium	6.6			MS
7440-48-4	Cobalt	0.48	J		MS
7440-50-8	Copper	2.3			MS
7439-89-6	Iron	897			MS
7439-92-1	Lead	0.37	J		MS
7439-95-4	Magnesium	15400			MS
7439-96-5	Manganese	4440		D	MS
7440-02-0	Nickel	5.9			MS
7440-09-7	Potassium	16200			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	1.0	U		MS
7440-23-5	Sodium	469000		D	MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	25.1			MS
7440-66-6	Zinc	5.0			MS

Color Before: BROWN Clarity Before: CLEAR Texture:

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH30Y5

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30T9

Matrix: WATER Lab Sample ID: C4368-18

% Solids: Date Received: 10/29/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	324			MS
7440-36-0	Antimony	0.75	J		MS
7440-38-2	Arsenic	48.4			MS
7440-39-3	Barium	91.5			MS
7440-41-7	Beryllium	1.0	U		MS
7440-43-9	Cadmium	1.0	U		MS
7440-70-2	Calcium	48600			MS
7440-47-3	Chromium	4.7			MS
7440-48-4	Cobalt	0.52	J		MS
7440-50-8	Copper	3.0			MS
7439-89-6	Iron	2080			MS
7439-92-1	Lead	0.96	J		MS
7439-95-4	Magnesium	14700			MS
7439-96-5	Manganese	3550		D	MS
7440-02-0	Nickel	4.5			MS
7440-09-7	Potassium	22200			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	1.0	U		MS
7440-23-5	Sodium	519000		D	MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	29.9			MS
7440-66-6	Zinc	7.3			MS

Color Before: BROWN Clarity Before: CLEAR Texture:

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH30Y6

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30T9

Matrix: WATER Lab Sample ID: C4368-19

% Solids: Date Received: 10/29/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1010			MS
7440-36-0	Antimony	0.59	J		MS
7440-38-2	Arsenic	11.4			MS
7440-39-3	Barium	102			MS
7440-41-7	Beryllium	0.11	J		MS
7440-43-9	Cadmium	1.0	U		MS
7440-70-2	Calcium	30500			MS
7440-47-3	Chromium	5.8			MS
7440-48-4	Cobalt	0.54	J		MS
7440-50-8	Copper	7.3			MS
7439-89-6	Iron	635			MS
7439-92-1	Lead	1.8			MS
7439-95-4	Magnesium	8370			MS
7439-96-5	Manganese	935			MS
7440-02-0	Nickel	2.3			MS
7440-09-7	Potassium	18400			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	1.0	U		MS
7440-23-5	Sodium	346000		D	MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	33.0			MS
7440-66-6	Zinc	6.6			MS

Color Before: BROWN Clarity Before: CLEAR Texture:

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH30Z6

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30T9

Matrix: WATER Lab Sample ID: C4368-20

% Solids: Date Received: 10/29/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9.1	J		MS
7440-36-0	Antimony	0.25	J		MS
7440-38-2	Arsenic	2.2			MS
7440-39-3	Barium	156			MS
7440-41-7	Beryllium	1.0	U		MS
7440-43-9	Cadmium	1.0	U		MS
7440-70-2	Calcium	132000		D	MS
7440-47-3	Chromium	0.29	J		MS
7440-48-4	Cobalt	0.36	J		MS
7440-50-8	Copper	1.7	J		MS
7439-89-6	Iron	356			MS
7439-92-1	Lead	0.24	J		MS
7439-95-4	Magnesium	53800			MS
7439-96-5	Manganese	1.0			MS
7440-02-0	Nickel	1.9			MS
7440-09-7	Potassium	3860			MS
7782-49-2	Selenium	0.70	J		MS
7440-22-4	Silver	1.0	U		MS
7440-23-5	Sodium	160000		D	MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	1.8	J		MS
7440-66-6	Zinc	18.6			MS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

REGION VIII
DATA VALIDATION REPORT
INORGANIC

Case/TDD No.	Site Name		Operable Unit
41926 / 1109-07	Smurfit Stone Mill		
RPM/OSC Name			
Robert Parker			
Contractor Laboratory	**Contract No.**	**SDG No.**	**Laboratory DPO/Region**
Chemtech Consulting Group	EP-W-09-038	MH30Z9	

Review Assigned Date: February 9, 2012 Data Validator: Bill Fear
Review Completion Date: February 16, 2012 Report Reviewer: Lisa Tyson

Sample ID	Matrix	Analysis
MH30Z9	Water	CLP - ICP-MS Metals (ISM01.3)
MH3100		
MH3101		
MH3102		
MH3103		
MH3104		
MH3105		
MH3106		
MH3107		
MH3108		
MH3109		
MH3110		
MH3121		
MH3122		
MH3123		
MH3124		
MH3125		
MH3135		

DATA QUALITY STATEMENT

( ) Data are ACCEPTABLE according to EPA Functional guidelines with no qualifiers (flags) added by the reviewer.
( ) Data are UNACCEPTABLE according to EPA Functional Guidelines.
(X) Data are acceptable with QUALIFICATIONS noted in review.

Telephone/Communication Logs Enclosed? Yes _____ No ___X_____

CLP Project Officer Attention Required? Yes _____ No ___X____ If yes, list the items that require attention:

INORGANIC DATA VALIDATION REPORT

REVIEW NARRATIVE SUMMARY

This data package was reviewed according to "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review," January 2010.

Raw data were reviewed for completeness and transcription accuracy onto the summary forms. Approximately 10-20% of the results reported in each of the samples, calibrations, and QC analyses were recalculated and verified. If problems were identified during the recalculation of results, a more thorough calculation check was performed.

The data package, SDG No. MH30Z9, consisted of 18 water samples for CLP metals by ISM01.3 ICP-MS. The following table lists the data qualifiers added to the sample analyses. Please see Data Qualifier Definitions, attached to the end of this report.

Sample ID	Elements	Qualifiers	Reason for Qualification	Review Section
MH30Z9, MH3101, MH3102, MH3103, MH3104, MH3105, MH3107, MH3108, MH3109, MH3110, MH3135	Aluminum	U	Blank contamination	6
MH3102, MH3103, MH3104, MH3105, MH3106, MH3107, MH3108, MH3109, MH3121, MH3122, MH3123, MH3124, MH3125	Antimony			
MH3110	Arsenic			
MH3121, MH3124	Cadmium			
MH30Z9, MH3100, MH3101, MH3102, MH3103, MH3104, MH3105, MH3106, MH3107, MH3108, MH3109, MH3110, MH3135	Chromium			
MH30Z9, MH3100, MH3101, MH3102, MH3103, MH3104, MH3105, MH3106, MH3107, MH3109, MH3110, MH3121, MH3122, MH3123, MH3124, MH3125, MH3135	Cobalt			
MH30Z9, MH3100, MH3101, MH3102, MH3103, MH3105, MH3106, MH3107, MH3108, MH3109, MH3110, MH3135	Copper			
MH30Z9, MH3101, MH3102, MH3103, MH3104, MH3105, MH3106, MH3107, MH3108, MH3109, MH3110	Iron			

Sample ID	Elements	Qualifiers	Reason for Qualification	Review Section
MH30Z9, MH3100, MH3101, MH3103, MH3104, MH3105, MH3106, MH3107, MH3108, MH3109, MH3110, MH3121, MH3122, MH3123, MH3124, MH3125, MH3135	Lead	U	Blank contamination	6
MH3109	Manganese			
MH3109, MH3121	Silver			
MH3107, MH3121	Thallium			
MH30Z9, MH3100, MH3101, MH3102, MH3103, MH3104, MH3105, MH3107, MH3108, MH3109, MH3110, MH3135	Vanadium			

1. DELIVERABLES

All deliverables were present.

Yes X No____

Comments: None.

2. HOLDING TIMES AND PRESERVATION CRITERIA

All technical holding times and preservation criteria were met.

Yes X No____

Comments: The samples were analyzed within holding times. The sample coolers were received within the recommended temperature range of 4 ± 2 ºC.

The laboratory noted that sample tags were not included with these samples. Chain-of-custody, summary forms, and raw data were evaluated.

3. INSTRUMENT CALIBRATIONS: STANDARDS AND BLANKS

The instruments were calibrated daily and each time an analysis run was performed.

Yes X No____

Comments: None.

The instruments were calibrated using one blank and the appropriate number of standards.

Yes X No____

Comments: None.

The correlation coefficient was > 0.995, percent differences were within ±30%, or the y-intercept was <CRQL.

Yes X No____

Comments: None.

4. FORM 1 - SAMPLE ANALYSIS RESULTS

Sample analyses were entered correctly on Form Is.

Yes X No____

Comments: None.

5. FORM 2A - INITIAL AND CONTINUING CALIBRATION VERIFICATION

The initial and continuing calibration verification standards (ICV and CCV, respectively) met SOW requirements.

Yes X No____

Comments: None.

The calibration verification results were within 90-110% recovery for metals.

Yes X No____

Comments: None.

The continuing calibration standards were run every two hours and at the beginning of the run, and again after the last analytical sample.

Yes X No____

Comments: None.

6. FORM 3 - BLANKS

The initial and continuing calibration blanks (ICB and CCB, respectively) frequency met SOW requirements.

Yes X No____

Comments: None.

A laboratory/preparation blank was run at the frequency of one per twenty samples, or per sample delivery group (whichever is more frequent), and for each matrix analyzed.

Yes X No____

Comments: None.

All analyzed blanks were free of contamination.

Yes___ No_X_

Comments: The following table lists the blanks with contamination that resulted in sample qualification, elements present, affected samples, and data qualifiers:

Blank Contaminants

Blank ID	Contaminant	Concentration Found in Blank (ug/L)	Associated Samples	Concentration Found in Sample (ug/L)	Qualifier/ Adjustment
ICB	Aluminum	2.646	MH30Z9 MH3101 MH3102 MH3103 MH3104 MH3105 MH3107 MH3108 MH3109 MH3110 MH3135	≤CRQL	20.0 U
	Antimony	0.98	MH3102 MH3103 MH3104 MH3105 MH3106 MH3107 MH3108 MH3109 MH3121 MH3122 MH3123 MH3124 MH3125		2.0 U
	Arsenic	0.226	MH3110		1.0 U
	Cadmium	0.19	MH3121 MH3124		1.0 U
	Chromium	0.095	MH30Z9 MH3100 MH3101 MH3102 MH3103 MH3104 MH3105 MH3106 MH3107 MH3108 MH3109 MH3110 MH3135		2.0 U

Blank ID	Contaminant	Concentration Found in Blank (ug/L)	Associated Samples	Concentration Found in Sample (ug/L)	Qualifier/ Adjustment
ICB	Cobalt	0.160	MH30Z9 MH3100 MH3101 MH3102 MH3103 MH3104 MH3105 MH3106 MH3107 MH3109 MH3110 MH3121 MH3122 MH3123 MH3124 MH3125 MH3135	≤CRQL	1.0 U
	Copper	0.250	MH30Z9 MH3100 MH3101 MH3102 MH3103 MH3105 MH3106 MH3107 MH3108 MH3109 MH3110 MH3135		2.0 U
	Iron	7.861	MH30Z9 MH3101 MH3102 MH3103 MH3104 MH3105 MH3106 MH3107 MH3108 MH3109 MH3110		200 U
	Lead	0.224	MH30Z9 MH3100 MH3101 MH3103 MH3104 MH3105 MH3106 MH3107 MH3108 MH3109 MH3110 MH3121 MH3122 MH3123 MH3124 MH3125 MH3135		1.0 U
	Manganese	0.230	MH3109	1.1	U
	Silver	0.152	MH3109 MH3121	≤CRQL	1.0 U U

Blank ID	Contaminant	Concentration Found in Blank (ug/L)	Associated Samples	Concentration Found in Sample (ug/L)	Qualifier/ Adjustment
ICB	Thallium	0.245	MH3107 MH3121	≤CRQL	1.0 U
	Vanadium	0.120	MH30Z9 MH3100 MH3101 MH3102 MH3103 MH3104 MH3105 MH3107 MH3108 MH3109 MH3110 MH3135		5.0 U

7. FORM 4 - ICP INTERFERENCE CHECK SAMPLE

The ICS was analyzed at the beginning of each analysis run but not prior to the Initial Calibration Verification (ICV), and immediately followed by a Continuing Calibration Verification/Continuing Calibration Blank (CCV/CCB).

Yes X No____

Comments: None.

Percent recovery of the analytes in the ICS AB solutions were within the range of 80-120% or the result was within ±2x the CRQL.

Yes X No____

Comments: None.

Sample results for aluminum, calcium, iron, and magnesium were less than the ICSA values.

Yes____ No X

Comments: The result for calcium in sample MH3135 was greater than the ICSA value and the absolute value of the associated element was greater than the MDL in the ICSA analysis:

Element	ICSA Result (ug/L)	MDL (ug/L)	Samples Affected	Qualifiers
Beryllium	0.27	0.061	None	None
Thallium	0.093	0.074		

No action was required for the positive interference because beryllium and thallium were not detected in sample MH3135.

8. FORM 5A - MATRIX SPIKE SAMPLE ANALYSIS

A matrix spike sample was analyzed with every twenty or fewer samples of a similar matrix, or one per sample delivery group (whichever is more frequent).

Yes X No___ NA___

Comments: None.

The percent recoveries (%Rs) were calculated correctly.

Yes X No___ NA___

Comments: None.

Spike recoveries were within the range of 75-125% (an exception is granted where the sample concentration is four times the spike concentration).

Yes X No___

Comments: All recoveries were within 75-125%. The case narrative incorrectly stated that recovery for chromium did not meet the spike QC limits.

9. FORM 5B - POST DIGEST SPIKE RECOVERY

A post digest spike was performed for those elements that did not meet the specified criteria (i.e., Pre-digestion/pre-distillation spike recovery falls outside of control limits and sample result is less than four times the spike amount added, exception: Ag, Hg).

Yes___ No___ NA X

Comments: A post digestion spike was not required.

10. FORM 6 - DUPLICATE SAMPLE ANALYSIS

Duplicate sample analysis was performed with every twenty or fewer samples of a similar matrix, or one per sample delivery group (whichever is more frequent).

Yes X No___ NA___

Comments: None.

The RPDs were calculated correctly.

Yes X No___ NA___

Comments: None.

For sample concentrations greater than five times the CRQL, RPDs were within ±20% (limits of ±35% apply for soil/sediments/tailings samples).

Yes X No___ NA___

Comments: None.

For sample concentrations less than five times the CRQL, duplicate analysis results were within the control window of ±CRQL (two times CRQL for soils).

Yes X No___ NA___

Comments: None.

11. ICP-MS

The ICP MS tune met SOW requirements.

Yes X No___ NA___

Comments: The ICP MS instrument was correctly tuned prior to analysis and all tuning criteria were met.

The minimum number of internal standards were added to the analyses and bracketed the target analyte masses.

Yes X No___

Comments: None.

All percent relative intensities were within 60-125%.

Yes X No___

Comments: None.

12. FORM 7 - LABORATORY CONTROL SAMPLE

The laboratory control sample (LCS) was prepared and analyzed with every twenty or fewer samples of a similar matrix, or one per sample delivery group (whichever is more frequent).

Yes X No___

Comments: None.

All results were within control limits.

Yes X No____

Comments: Results were within 70-130% for these water samples.

13. FORM 8 – SERIAL DILUTION

A serial dilution was performed for ICP analysis with every twenty or fewer samples of a similar matrix, or one per sample delivery group, whichever is more frequent.

Yes X No____

Comments: None.

The serial dilution was without interference problems as defined by the SOW.

Yes X No____

Comments: The serial dilution %Ds were less than 10% or the original sample result was less than 50* the MDL.

14. FORM 9 - ANNUAL METHOD DETECTION LIMITS (MDL)

MDLs were provided for all elements on the target analyte list.

Yes X No____

Comments: None.

Reported MDLs met SOW requirements.

Yes X No____

Comments: None.

15. FORM 10 - INTERELEMENT CORRECTION FACTORS FOR ICP

Interelement corrections for ICP were reported.

Yes____ No___ NA X

Comments: None.

16. FORM 12 - PREPARATION LOG

Information on the preparation of samples for analysis was reported on Form 12.

Yes X No____

Comments: None.

17. FORM 13 - ANALYSIS RUN LOG

A Form 13 with the required information was filled out for each analysis run in the data package.

Yes X No____

Comments: None.

18. Additional Comments or Problems/Resolutions Not Addressed Above

Yes____ No X

Comments: None.

INORGANIC DATA QUALITY ASSURANCE REVIEW

Region VIII

DATA QUALIFIER DEFINITIONS

For the purpose of Data Validation, the following code letters and associated definitions are provided for use by the data validator to summarize the data quality. Use of additional qualifiers should be carefully considered. Definitions for all qualifiers used should be provided with each report.

GENERAL QUALIFIERS for use with both INORGANIC and ORGANIC DATA

R	-	Reported value is "rejected." The data are unusable. Resampling or reanalysis may be necessary to verify the presence or absence of the compound.
J	-	The associated numerical value is an estimated quantity and is the approximate concentration of the analyte in the sample.
J+	-	The associated numerical value is an estimated quantity but the result may be biased high.
J-	-	The associated numerical value is an estimated quantity but the result may be biased low.
U J	-	The reported quantitation limit is estimated because Quality Control criteria were not met. Element or compound may or may not be present in the sample.
N J	-	Estimated value of a tentatively identified compound. (Identified with a CAS number.) ORGANICS analysis only.
U	-	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH30Z9

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30Z9

Matrix: WATER Lab Sample ID: C4369-01

% Solids: Date Received: 10/28/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	17.5	J		MS
7440-36-0	Antimony	2.0	U		MS
7440-38-2	Arsenic	1.7			MS
7440-39-3	Barium	164			MS
7440-41-7	Beryllium	1.0	U		MS
7440-43-9	Cadmium	1.0	U		MS
7440-70-2	Calcium	27400			MS
7440-47-3	Chromium	0.27	J		MS
7440-48-4	Cobalt	0.47	J		MS
7440-50-8	Copper	1.3	J		MS
7439-89-6	Iron	115	J		MS
7439-92-1	Lead	0.40	J		MS
7439-95-4	Magnesium	12200			MS
7439-96-5	Manganese	4.4			MS
7440-02-0	Nickel	0.71	J		MS
7440-09-7	Potassium	2450			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	1.0	U		MS
7440-23-5	Sodium	14600			MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	0.37	J		MS
7440-66-6	Zinc	3.8			MS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3100

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30Z9

Matrix: WATER Lab Sample ID: C4369-02

% Solids: Date Received: 10/28/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	116			MS
7440-36-0	Antimony	2.0	U		MS
7440-38-2	Arsenic	1.8			MS
7440-39-3	Barium	168			MS
7440-41-7	Beryllium	1.0	U		MS
7440-43-9	Cadmium	1.0	U		MS
7440-70-2	Calcium	27500			MS
7440-47-3	Chromium	1.0	J		MS
7440-48-4	Cobalt	0.16	J		MS
7440-50-8	Copper	1.7	J		MS
7439-89-6	Iron	207			MS
7439-92-1	Lead	0.44	J		MS
7439-95-4	Magnesium	12200			MS
7439-96-5	Manganese	7.3			MS
7440-02-0	Nickel	1.8			MS
7440-09-7	Potassium	2500			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	1.0	U		MS
7440-23-5	Sodium	14400			MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	0.87	J		MS
7440-66-6	Zinc	5.2			MS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3101

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30Z9

Matrix: WATER Lab Sample ID: C4369-03

% Solids: Date Received: 10/28/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	19.4	J		MS
7440-36-0	Antimony	2.0	U		MS
7440-38-2	Arsenic	1.6			MS
7440-39-3	Barium	158			MS
7440-41-7	Beryllium	1.0	U		MS
7440-43-9	Cadmium	1.0	U		MS
7440-70-2	Calcium	26600			MS
7440-47-3	Chromium	0.18	J		MS
7440-48-4	Cobalt	0.64	J		MS
7440-50-8	Copper	1.1	J		MS
7439-89-6	Iron	97.9	J		MS
7439-92-1	Lead	0.17	J		MS
7439-95-4	Magnesium	12000			MS
7439-96-5	Manganese	6.1			MS
7440-02-0	Nickel	0.59	J		MS
7440-09-7	Potassium	2430			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	1.0	U		MS
7440-23-5	Sodium	14200			MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	0.56	J		MS
7440-66-6	Zinc	3.6			MS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

Metals

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3102

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30Z9

Matrix: WATER Lab Sample ID: C4369-04

% Solids: Date Received: 10/28/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6.9	J		MS
7440-36-0	Antimony	0.18	J		MS
7440-38-2	Arsenic	2.3			MS
7440-39-3	Barium	90.6			MS
7440-41-7	Beryllium	1.0	U		MS
7440-43-9	Cadmium	1.0	U		MS
7440-70-2	Calcium	29500			MS
7440-47-3	Chromium	0.24	J		MS
7440-48-4	Cobalt	0.62	J		MS
7440-50-8	Copper	1.4	J		MS
7439-89-6	Iron	103	J		MS
7439-92-1	Lead	1.2			MS
7439-95-4	Magnesium	8650			MS
7439-96-5	Manganese	4.8			MS
7440-02-0	Nickel	0.44	J		MS
7440-09-7	Potassium	1850			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	1.0	U		MS
7440-23-5	Sodium	6180			MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	0.57	J		MS
7440-66-6	Zinc	6.2			MS

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Comments:

Metals

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3103

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30Z9

Matrix: WATER Lab Sample ID: C4369-05

% Solids: Date Received: 10/28/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8.0	J		MS
7440-36-0	Antimony	0.21	J		MS
7440-38-2	Arsenic	2.7			MS
7440-39-3	Barium	93.2			MS
7440-41-7	Beryllium	1.0	U		MS
7440-43-9	Cadmium	1.0	U		MS
7440-70-2	Calcium	29300			MS
7440-47-3	Chromium	0.19	J		MS
7440-48-4	Cobalt	0.67	J		MS
7440-50-8	Copper	1.6	J		MS
7439-89-6	Iron	97.9	J		MS
7439-92-1	Lead	0.14	J		MS
7439-95-4	Magnesium	8710			MS
7439-96-5	Manganese	30.7			MS
7440-02-0	Nickel	0.48	J		MS
7440-09-7	Potassium	1920			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	1.0	U		MS
7440-23-5	Sodium	8600			MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	0.81	J		MS
7440-66-6	Zinc	4.2			MS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

Metals

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3104

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30Z9

Matrix: WATER Lab Sample ID: C4369-06

% Solids: Date Received: 10/28/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	10.7	J		MS
7440-36-0	Antimony	0.19	J		MS
7440-38-2	Arsenic	2.6			MS
7440-39-3	Barium	90.3			MS
7440-41-7	Beryllium	1.0	U		MS
7440-43-9	Cadmium	1.0	U		MS
7440-70-2	Calcium	29900			MS
7440-47-3	Chromium	0.36	J		MS
7440-48-4	Cobalt	0.65	J		MS
7440-50-8	Copper	2.2			MS
7439-89-6	Iron	114	J		MS
7439-92-1	Lead	0.34	J		MS
7439-95-4	Magnesium	8660			MS
7439-96-5	Manganese	24.8			MS
7440-02-0	Nickel	0.67	J		MS
7440-09-7	Potassium	1960			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	1.0	U		MS
7440-23-5	Sodium	8900			MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	0.65	J		MS
7440-66-6	Zinc	8.1			MS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3105

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30Z9

Matrix: WATER Lab Sample ID: C4369-07

% Solids: Date Received: 10/28/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9.3	J		MS
7440-36-0	Antimony	0.18	J		MS
7440-38-2	Arsenic	2.5			MS
7440-39-3	Barium	90.3			MS
7440-41-7	Beryllium	1.0	U		MS
7440-43-9	Cadmium	1.0	U		MS
7440-70-2	Calcium	29200			MS
7440-47-3	Chromium	0.21	J		MS
7440-48-4	Cobalt	0.34	J		MS
7440-50-8	Copper	1.8	J		MS
7439-89-6	Iron	99.3	J		MS
7439-92-1	Lead	0.90	J		MS
7439-95-4	Magnesium	8560			MS
7439-96-5	Manganese	10.6			MS
7440-02-0	Nickel	0.44	J		MS
7440-09-7	Potassium	1890			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	1.0	U		MS
7440-23-5	Sodium	7120			MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	0.63	J		MS
7440-66-6	Zinc	4.1			MS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3106

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30Z9

Matrix: WATER Lab Sample ID: C4369-08

% Solids: Date Received: 10/28/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	40.4			MS
7440-36-0	Antimony	0.18	J		MS
7440-38-2	Arsenic	3.0			MS
7440-39-3	Barium	89.9			MS
7440-41-7	Beryllium	1.0	U		MS
7440-43-9	Cadmium	1.0	U		MS
7440-70-2	Calcium	29600			MS
7440-47-3	Chromium	0.44	J		MS
7440-48-4	Cobalt	0.29	J		MS
7440-50-8	Copper	2.0	J		MS
7439-89-6	Iron	98.4	J		MS
7439-92-1	Lead	0.15	J		MS
7439-95-4	Magnesium	9080			MS
7439-96-5	Manganese	32.0			MS
7440-02-0	Nickel	0.57	J		MS
7440-09-7	Potassium	2070			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	1.0	U		MS
7440-23-5	Sodium	18200			MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	5.0	U		MS
7440-66-6	Zinc	6.9			MS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3107

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30Z9

Matrix: WATER Lab Sample ID: C4369-09

% Solids: Date Received: 10/28/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	17.4	J		MS
7440-36-0	Antimony	0.39	J		MS
7440-38-2	Arsenic	2.4			MS
7440-39-3	Barium	87.9			MS
7440-41-7	Beryllium	1.0	U		MS
7440-43-9	Cadmium	1.0	U		MS
7440-70-2	Calcium	28800			MS
7440-47-3	Chromium	0.34	J		MS
7440-48-4	Cobalt	0.97	J		MS
7440-50-8	Copper	1.8	J		MS
7439-89-6	Iron	123	J		MS
7439-92-1	Lead	0.30	J		MS
7439-95-4	Magnesium	8400			MS
7439-96-5	Manganese	12.2			MS
7440-02-0	Nickel	0.61	J		MS
7440-09-7	Potassium	1830			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	1.0	U		MS
7440-23-5	Sodium	7750			MS
7440-28-0	Thallium	0.090	J		MS
7440-62-2	Vanadium	0.64	J		MS
7440-66-6	Zinc	12.7			MS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3108

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30Z9

Matrix: WATER Lab Sample ID: C4369-10

% Solids: Date Received: 10/28/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	17.0	J		MS
7440-36-0	Antimony	0.27	J		MS
7440-38-2	Arsenic	2.5			MS
7440-39-3	Barium	86.3			MS
7440-41-7	Beryllium	1.0	U		MS
7440-43-9	Cadmium	1.0	U		MS
7440-70-2	Calcium	28300			MS
7440-47-3	Chromium	0.27	J		MS
7440-48-4	Cobalt	1.1			MS
7440-50-8	Copper	1.7	J		MS
7439-89-6	Iron	108	J		MS
7439-92-1	Lead	0.17	J		MS
7439-95-4	Magnesium	8380			MS
7439-96-5	Manganese	18.2			MS
7440-02-0	Nickel	0.51	J		MS
7440-09-7	Potassium	1810			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	1.0	U		MS
7440-23-5	Sodium	8750			MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	0.53	J		MS
7440-66-6	Zinc	5.4			MS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3109

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30Z9

Matrix: WATER Lab Sample ID: C4369-13

% Solids: Date Received: 10/29/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7.1	J		MS
7440-36-0	Antimony	0.19	J		MS
7440-38-2	Arsenic	1.6			MS
7440-39-3	Barium	298			MS
7440-41-7	Beryllium	1.0	U		MS
7440-43-9	Cadmium	1.0	U		MS
7440-70-2	Calcium	51200			MS
7440-47-3	Chromium	0.43	J		MS
7440-48-4	Cobalt	0.41	J		MS
7440-50-8	Copper	1.8	J		MS
7439-89-6	Iron	146	J		MS
7439-92-1	Lead	0.16	J		MS
7439-95-4	Magnesium	18900			MS
7439-96-5	Manganese	1.1			MS
7440-02-0	Nickel	0.60	J		MS
7440-09-7	Potassium	5170			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	1.0			MS
7440-23-5	Sodium	11000			MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	0.91	J		MS
7440-66-6	Zinc	5.8			MS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3110

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30Z9

Matrix: WATER Lab Sample ID: C4369-14

% Solids: Date Received: 10/29/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2.5	J		MS
7440-36-0	Antimony	2.0	U		MS
7440-38-2	Arsenic	0.93	J		MS
7440-39-3	Barium	276			MS
7440-41-7	Beryllium	1.0	U		MS
7440-43-9	Cadmium	1.0	U		MS
7440-70-2	Calcium	62900			MS
7440-47-3	Chromium	0.68	J		MS
7440-48-4	Cobalt	0.28	J		MS
7440-50-8	Copper	0.49	J		MS
7439-89-6	Iron	152	J		MS
7439-92-1	Lead	0.32	J		MS
7439-95-4	Magnesium	20400			MS
7439-96-5	Manganese	4.9			MS
7440-02-0	Nickel	0.61	J		MS
7440-09-7	Potassium	2510			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	1.0	U		MS
7440-23-5	Sodium	11500			MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	0.86	J		MS
7440-66-6	Zinc	14.4			MS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3121

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30Z9

Matrix: WATER Lab Sample ID: C4369-15

% Solids: Date Received: 10/29/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	93.1			MS
7440-36-0	Antimony	0.84	J		MS
7440-38-2	Arsenic	35.7			MS
7440-39-3	Barium	110			MS
7440-41-7	Beryllium	1.0	U		MS
7440-43-9	Cadmium	0.21	J		MS
7440-70-2	Calcium	65600			MS
7440-47-3	Chromium	5.1			MS
7440-48-4	Cobalt	0.66	J		MS
7440-50-8	Copper	4.9			MS
7439-89-6	Iron	1070			MS
7439-92-1	Lead	0.62	J		MS
7439-95-4	Magnesium	17900			MS
7439-96-5	Manganese	1800			MS
7440-02-0	Nickel	4.8			MS
7440-09-7	Potassium	14000			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	0.12	J		MS
7440-23-5	Sodium	485000		D	MS
7440-28-0	Thallium	0.12	J		MS
7440-62-2	Vanadium	21.9			MS
7440-66-6	Zinc	4.7			MS

Color Before: BROWN Clarity Before: CLEAR Texture:

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3122

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30Z9

Matrix: WATER Lab Sample ID: C4369-16

% Solids: Date Received: 10/29/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	235			MS
7440-36-0	Antimony	0.61	J		MS
7440-38-2	Arsenic	13.0			MS
7440-39-3	Barium	90.4			MS
7440-41-7	Beryllium	1.0	U		MS
7440-43-9	Cadmium	1.0	U		MS
7440-70-2	Calcium	47300			MS
7440-47-3	Chromium	4.6			MS
7440-48-4	Cobalt	0.73	J		MS
7440-50-8	Copper	3.1			MS
7439-89-6	Iron	896			MS
7439-92-1	Lead	0.83	J		MS
7439-95-4	Magnesium	15300			MS
7439-96-5	Manganese	2660		D	MS
7440-02-0	Nickel	3.9			MS
7440-09-7	Potassium	20200			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	1.0	U		MS
7440-23-5	Sodium	533000		D	MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	20.1			MS
7440-66-6	Zinc	3.8			MS

Color Before: BROWN Clarity Before: CLEAR Texture:

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3123

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30Z9

Matrix: WATER Lab Sample ID: C4369-17

% Solids: Date Received: 10/29/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	209			MS
7440-36-0	Antimony	0.19	J		MS
7440-38-2	Arsenic	14.5			MS
7440-39-3	Barium	93.3			MS
7440-41-7	Beryllium	1.0	U		MS
7440-43-9	Cadmium	1.0	U		MS
7440-70-2	Calcium	50500			MS
7440-47-3	Chromium	5.4			MS
7440-48-4	Cobalt	0.61	J		MS
7440-50-8	Copper	3.0			MS
7439-89-6	Iron	576			MS
7439-92-1	Lead	0.28	J		MS
7439-95-4	Magnesium	16300			MS
7439-96-5	Manganese	4170		D	MS
7440-02-0	Nickel	5.3			MS
7440-09-7	Potassium	16500			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	1.5			MS
7440-23-5	Sodium	483000		D	MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	22.6			MS
7440-66-6	Zinc	13.5			MS

Color Before: BROWN Clarity Before: CLEAR Texture:

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3124

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30Z9

Matrix: WATER Lab Sample ID: C4369-18

% Solids: Date Received: 10/29/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	317			MS
7440-36-0	Antimony	0.45	J		MS
7440-38-2	Arsenic	44.8			MS
7440-39-3	Barium	90.2			MS
7440-41-7	Beryllium	1.0	U		MS
7440-43-9	Cadmium	0.12	J		MS
7440-70-2	Calcium	49200			MS
7440-47-3	Chromium	4.5			MS
7440-48-4	Cobalt	0.48	J		MS
7440-50-8	Copper	2.7			MS
7439-89-6	Iron	2050			MS
7439-92-1	Lead	0.69	J		MS
7439-95-4	Magnesium	15100			MS
7439-96-5	Manganese	3580		D	MS
7440-02-0	Nickel	4.3			MS
7440-09-7	Potassium	22700			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	1.0	U		MS
7440-23-5	Sodium	560000		D	MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	30.2			MS
7440-66-6	Zinc	6.2			MS

Color Before: BROWN Clarity Before: CLEAR Texture:

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3125

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30Z9

Matrix: WATER Lab Sample ID: C4369-19

% Solids: Date Received: 10/29/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	562			MS
7440-36-0	Antimony	0.47	J		MS
7440-38-2	Arsenic	9.2			MS
7440-39-3	Barium	71.8			MS
7440-41-7	Beryllium	1.0	U		MS
7440-43-9	Cadmium	1.0	U		MS
7440-70-2	Calcium	29300			MS
7440-47-3	Chromium	4.7			MS
7440-48-4	Cobalt	0.41	J		MS
7440-50-8	Copper	3.8			MS
7439-89-6	Iron	384			MS
7439-92-1	Lead	0.97	J		MS
7439-95-4	Magnesium	8380			MS
7439-96-5	Manganese	921			MS
7440-02-0	Nickel	2.5			MS
7440-09-7	Potassium	18300			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	1.0	U		MS
7440-23-5	Sodium	357000		D	MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	28.3			MS
7440-66-6	Zinc	6.2			MS

Color Before: BROWN Clarity Before: CLEAR Texture:

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3135

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30Z9

Matrix: WATER Lab Sample ID: C4369-20

% Solids: Date Received: 10/29/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6.8	J		MS
7440-36-0	Antimony	2.0	U		MS
7440-38-2	Arsenic	2.1			MS
7440-39-3	Barium	159			MS
7440-41-7	Beryllium	1.0	U		MS
7440-43-9	Cadmium	1.0	U		MS
7440-70-2	Calcium	133000		D	MS
7440-47-3	Chromium	2.0	J		MS
7440-48-4	Cobalt	0.38	J		MS
7440-50-8	Copper	1.4	J		MS
7439-89-6	Iron	362			MS
7439-92-1	Lead	0.29	J		MS
7439-95-4	Magnesium	54900			MS
7439-96-5	Manganese	7.6			MS
7440-02-0	Nickel	2.6			MS
7440-09-7	Potassium	3970			MS
7782-49-2	Selenium	5.0	U		MS
7440-22-4	Silver	1.0	U		MS
7440-23-5	Sodium	162000		D	MS
7440-28-0	Thallium	1.0	U		MS
7440-62-2	Vanadium	1.5	J		MS
7440-66-6	Zinc	20.2			MS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

REGION VIII
DATA VALIDATION REPORT
INORGANIC

Case No. / TDD No.	Site Name		Operable Unit
41926 / 1109-07	Smurfit Stone Mill		
RPM/OSC Name			
Robert Parker			
Contractor Laboratory	**Contract No.**	**SDG No.**	**Laboratory DPO/Region**
Chemtech Consulting Group	EP-W-09-038	MH30S8	

Review Assigned Date February 9, 2012 Data Validator Bill Fear
Review Completion Date February 16, 2012 Report Reviewer Lisa Tyson

Sample ID	Matrix	Analysis
MH30Q0	Soil	CLP – ICP-AES Metals (ISM01.3)
MH30Q1		
MH30Q2		
MH30Q3		
MH30Q4		
MH30Q6		
MH30Q8		
MH30Q9		
MH30R0		
MH30R1		
MH30S8		
MH30S9		
MH30T0		
MH30T1		
MH30T2		
MH30T3		
MH30T4		

Sample ID	Matrix	Analysis
MH30T5	Soil	CLP – ICP-AES Metals (ISM01.3)
MH30T6		
MH30T7		

DATA QUALITY STATEMENT

( ) Data are ACCEPTABLE according to EPA Functional guidelines with no qualifiers (flags) added by the reviewer.
( ) Data are UNACCEPTABLE according to EPA Functional Guidelines.
(X) Data are acceptable with QUALIFICATIONS noted in review.

Telephone/Communication Logs Enclosed? Yes _____ No ___X_____

CLP Project Officer Attention Required? Yes _____ No ___X_____ If yes, list the items that require attention:

INORGANIC DATA VALIDATION REPORT

REVIEW NARRATIVE SUMMARY

This data package was reviewed according to "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review," January 2010. Raw data were reviewed for completeness and transcription accuracy onto the summary forms. Approximately 10-20% of the results reported in each of the samples, calibrations, and QC analyses were recalculated and verified. If problems were identified during the recalculation of results, a more thorough calculation check was performed.

The data package, SDG No. MH30S8, consisted of 20 soil samples for CLP metals by ISM01.3. The following table lists the data qualifiers added to the sample analyses. Please see Data Qualifier Definitions, attached to the end of this report.

Sample ID	Elements	Qualifiers	Reason for Qualification	Review Section
MH30Q9, MH30R1	Arsenic	U	Blank contamination	6
MH30Q0, MH30Q4, MH30R0, MH30R1, MH30T6	Silver			
MH30Q6	Thallium			
MH30R0, MH30R1, MH30T1	Vanadium			
MH30R0, MH30R1, MH30T1, MH30T3, MH30T4, MH30T7	Potassium	J-	Negative blank contamination	
MH30Q0, MH30Q1, MH30Q3, MH30Q4, MH30Q6, MH30Q8, MH30Q9, MH30R0, MH30R1, MH30S8, MH30S9, MH30T5	Antimony	J+	ICP interference	7
MH30Q1, MH30Q3, MH30Q9, MH30R0, MH30R1, MH30S8, MH30T5	Arsenic			
MH30Q0, MH30Q1, MH30Q3, MH30Q4, MH30Q6, MH30Q8, MH30Q9, MH30R0, MH30S8, MH30S9, MH30T5	Beryllium			
MH30Q0, MH30Q1, MH30Q3, MH30Q4, MH30Q9, MH30R0, MH30R1, MH30S8, MH30S9, MH30T5	Cadmium			
MH30R1	Vanadium			

Sample ID	Elements	Qualifiers	Reason for Qualification	Review Section
MH30Q0, MH30Q1, MH30Q3, MH30Q4, MH30Q9, MH30R0, MH30R1, MH30S8, MH30S9, MH30T5	Silver	J-/UJ	ICP interference	7

Bias was not assigned to various arsenic, silver, and vanadium results because these results were also qualified as not detected due to laboratory blank contamination.

1. DELIVERABLES

All deliverables were present.

Yes X No____

Comments: None.

2. HOLDING TIMES AND PRESERVATION CRITERIA

All technical holding times and preservation criteria were met.

Yes X No____

Comments: The samples were analyzed within holding times. The sample coolers were received within the recommended temperature range of 4 ± 2 ºC.

The laboratory noted that sample tags were not included with these samples.

No other shipping or receiving problems were noted. Chain-of-custody, summary forms, and raw data were evaluated.

3. INSTRUMENT CALIBRATIONS: STANDARDS AND BLANKS

The instruments were calibrated daily and each time an analysis run was performed.

Yes X No____

Comments: None.

The instruments were calibrated using one blank and the appropriate number of standards.

Yes X No____

Comments: None.

The correlation coefficient was > 0.995, percent differences were within ±30%, or the y-intercept was <CRQL.

Yes X No____

Comments: None.

4. FORM 1 - SAMPLE ANALYSIS RESULTS

Sample analyses were entered correctly on Form Is.

Yes X No____

Comments: None.

5. FORM 2A - INITIAL AND CONTINUING CALIBRATION VERIFICATION

The initial and continuing calibration verification standards (ICV and CCV, respectively) met SOW requirements.

Yes X No____

Comments: None.

The calibration verification results were within 90-110% recovery for metals.

Yes X No____

Comments: None.

The continuing calibration standards were run every two hours and at the beginning of the run, and again after the last analytical sample.

Yes X No____

Comments: None.

6. FORM 3 - BLANKS

The initial and continuing calibration blanks (ICB and CCB, respectively) frequency met SOW requirements.

Yes X No____

Comments: None.

A laboratory/preparation blank was run at the frequency of one per twenty samples, or per sample delivery group (whichever is more frequent), and for each matrix analyzed.

Yes X No____

Comments: None.

All analyzed blanks were free of contamination.

Yes___ No_X_

Comments: The following table lists the blanks with contamination that resulted in sample qualification, elements present, affected samples, and data qualifiers:

Blank Contaminants

Blank ID	Contaminant	Concentration Found in Blank	Associated Samples	Concentration Found in Sample	Qualifier/ Adjustment
CCB	Arsenic	0.3479 ug/L	MH30Q9 MH30R1	≤CRQL	U 2.4 U
	Silver	0.676 ug/L	MH30Q0 MH30Q4 MH30R0 MH30R1 MH30T6		1.1 U 1.2 U 2.9 U 2.4 U 0.95 U
	Thallium	4.06 ug/L	MH30Q6		4.1 U
	Vanadium	3.013 ug/L	MH30R0 MH30R1 MH30T1		14.3 U 11.9 U 5.0 U
PBS	Potassium	-9.555 mg/Kg	MH30R0 MH30R1 MH30T1 MH30T3 MH30T4 MH30T7		J-

7. FORM 4 - ICP INTERFERENCE CHECK SAMPLE

The ICS was analyzed at the beginning of each analysis run but not prior to the Initial Calibration Verification (ICV), and immediately followed by a Continuing Calibration Verification/Continuing Calibration Blank (CCV/CCB).

Yes_X_ No____

Comments: None.

Percent recovery of the analytes in the ICS AB solutions were within the range of 80-120% or the result was within ± the CRQL (or within ±2x the CRQL for ICP-MS).

Yes_X_ No____

Comments: None.

Sample results for aluminum, calcium, iron, and magnesium were less than the ICSA values.

Yes___ No_X_

Comments: The following sample results were qualified because the results for iron or calcium were greater than the ICSA value and the absolute value of the associated element was greater than the MDL in the ICSA analysis:

Element	ICSA Result (ug/L)	MDL (ug/L)	Samples Affected	Qualifiers
Antimony	4.8	1.7	MH30Q0, MH30Q1, MH30Q3, MH30Q4, MH30Q6, MH30Q8, MH30Q9, MH30R0, MH30R1, MH30S8, MH30S9, MH30T5	J+
Arsenic	5.9	2.5	MH30Q1, MH30Q3, MH30Q9, MH30R0, MH30R1, MH30S8, MH30T5	
Beryllium	1.9	0.40	MH30Q0, MH30Q1, MH30Q3, MH30Q4, MH30Q6, MH30Q8, MH30Q9, MH30R0, MH30S8, MH30S9, MH30T5	
Cadmium	3.4	0.12	MH30Q0, MH30Q1, MH30Q3, MH30Q4, MH30Q9, MH30R0, MH30R1, MH30S8, MH30S9, MH30T5	
Vanadium	3.5	0.33	MH30R1	
Silver	-2.1	0.67	MH30Q0, MH30Q1, MH30Q3, MH30Q4, MH30Q9, MH30R0, MH30R1, MH30S8, MH30S9, MH30T5	J-/UJ

Bias was not assigned to various arsenic, silver, and vanadium results because these results were also qualified as not detected due to laboratory blank contamination.

8. FORM 5A - MATRIX SPIKE SAMPLE ANALYSIS

A matrix spike sample was analyzed with every twenty or fewer samples of a similar matrix, or one per sample delivery group (whichever is more frequent).

Yes_X_ No___ NA___

Comments: None.

The percent recoveries (%Rs) were calculated correctly.

Yes_X_ No___ NA___

Comments: None.

Spike recoveries were within the range of 75-125% (an exception is granted where the sample concentration is four times the spike concentration).

Yes X No____

Comments: All recoveries were within 75-125%.

9. FORM 5B - POST DIGEST SPIKE RECOVERY

A post-digest spike was performed for those elements that did not meet the specified criteria (i.e., Pre-digestion/pre-distillation spike recovery falls outside of control limits and sample result is less than four times the spike amount added, exception: Ag, Hg).

Yes X No___ NA____

Comments: A post digestion spike was not required.

10. FORM 6 - DUPLICATE SAMPLE ANALYSIS

Duplicate sample analysis was performed with every twenty or fewer samples of a similar matrix, or one per sample delivery group (whichever is more frequent).

Yes X No___ NA____

Comments: None.

The RPDs were calculated correctly.

Yes X No___ NA____

Comments: None.

For sample concentrations greater than five times the CRQL, RPDs were within ±20% (limits of ±35% apply for soil/sediments/tailings samples).

Yes X No___ NA____

Comments: None.

For sample concentrations less than five times the CRQL, duplicate analysis results were within the control window of ±CRQL (two times CRQL for soils).

Yes X No____ NA____

Comments: None.

11. ICP-MS

Comments**:** ICP-MS analyses were not performed on these samples.

12. FORM 7 - LABORATORY CONTROL SAMPLE

The laboratory control sample (LCS) was prepared and analyzed with every twenty or fewer samples of a similar matrix, or one per sample delivery group (whichever is more frequent).

Yes_X_ No____

Comments: None.

All results were within control limits.

Yes_X_ No____

Comments: Results were within control limits.

13. FORM 8 – SERIAL DILUTION

A serial dilution was performed for ICP analysis with every twenty or fewer samples of a similar matrix, or one per sample delivery group, whichever is more frequent.

Yes_X_ No____

Comments: None.

The serial dilution was without interference problems as defined by the SOW.

Yes_X_ No____

Comments: The serial dilution %Ds were less than 10% or the original sample result was less than 50* the MDL.

14. FORM 9 - ANNUAL METHOD DETECTION LIMITS (MDL)

MDLs were provided for all elements on the target analyte list.

Yes_X_ No____

Comments: None.

Reported MDLs met SOW requirements.

Yes X No____

Comments: None.

15. FORM 10 - INTERELEMENT CORRECTION FACTORS FOR ICP

Interelement corrections for ICP were reported.

Yes X No____

Comments: None.

16. FORM 12 - PREPARATION LOG

Information on the preparation of samples for analysis was reported on Form 12.

Yes X No____

Comments: None.

17. FORM 13 - ANALYSIS RUN LOG

A Form 13 with the required information was filled out for each analysis run in the data package.

Yes X No____

Comments: None.

18. Additional Comments or Problems/Resolutions Not Addressed Above

Yes____ No X

Comments: None.

INORGANIC DATA QUALITY ASSURANCE REVIEW

Region VIII

DATA QUALIFIER DEFINITIONS

For the purpose of Data Validation, the following code letters and associated definitions are provided for use by the data validator to summarize the data quality. Use of additional qualifiers should be carefully considered. Definitions for all qualifiers used should be provided with each report.

GENERAL QUALIFIERS for use with both INORGANIC and ORGANIC DATA

R	-	Reported value is "rejected." The data are unusable. Resampling or reanalysis may be necessary to verify the presence or absence of the compound.
J	-	The associated numerical value is an estimated quantity and is the approximate concentration of the analyte in the sample.
J+	-	The associated numerical value is an estimated quantity but the result may be biased high.
J-	-	The associated numerical value is an estimated quantity but the result may be biased low.
U J	-	The reported quantitation limit is estimated because Quality Control criteria were not met. Element or compound may or may not be present in the sample.
N J	-	Estimated value of a tentatively identified compound. (Identified with a CAS number.) ORGANICS analysis only.
U	-	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH30Q0

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30S8

Matrix: SOIL Lab Sample ID: C4367-13

% Solids: 84.9 Date Received: 10/29/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	10300			P
7440-36-0	Antimony	0.73	J		P
7440-38-2	Arsenic	8.5			P
7440-39-3	Barium	232			P
7440-41-7	Beryllium	0.90			P
7440-43-9	Cadmium	1.5			P
7440-70-2	Calcium	6540			P
7440-47-3	Chromium	11.0		*	P
7440-48-4	Cobalt	5.6	J		P
7440-50-8	Copper	71.7			P
7439-89-6	Iron	14700		*	P
7439-92-1	Lead	19.6			P
7439-95-4	Magnesium	6250			P
7439-96-5	Manganese	435		*	P
7440-02-0	Nickel	9.8			P
7440-09-7	Potassium	2580			P
7782-49-2	Selenium	3.9	U		P
7440-22-4	Silver	0.18	J		P
7440-23-5	Sodium	149	J		P
7440-28-0	Thallium	2.8	U		P
7440-62-2	Vanadium	15.9		*	P
7440-66-6	Zinc	235			P

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH30Q1

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30S8

Matrix: SOIL Lab Sample ID: C4367-14

% Solids: 77.0 Date Received: 10/29/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	10500			P
7440-36-0	Antimony	0.55	J		P
7440-38-2	Arsenic	4.8			P
7440-39-3	Barium	208			P
7440-41-7	Beryllium	0.89			P
7440-43-9	Cadmium	0.69			P
7440-70-2	Calcium	3230			P
7440-47-3	Chromium	10.1		*	P
7440-48-4	Cobalt	6.0			P
7440-50-8	Copper	18.5			P
7439-89-6	Iron	13900		*	P
7439-92-1	Lead	11.2			P
7439-95-4	Magnesium	4980			P
7439-96-5	Manganese	402		*	P
7440-02-0	Nickel	9.6			P
7440-09-7	Potassium	1790			P
7782-49-2	Selenium	4.0	U		P
7440-22-4	Silver	1.1	U		P
7440-23-5	Sodium	200	J		P
7440-28-0	Thallium	2.9	U		P
7440-62-2	Vanadium	14.0		*	P
7440-66-6	Zinc	49.4			P

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH30Q2

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30S8

Matrix: SOIL Lab Sample ID: C4367-15

% Solids: 84.5 Date Received: 10/29/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6440			P
7440-36-0	Antimony	0.20	J		P
7440-38-2	Arsenic	3.4			P
7440-39-3	Barium	149			P
7440-41-7	Beryllium	0.58			P
7440-43-9	Cadmium	0.51	J		P
7440-70-2	Calcium	2780			P
7440-47-3	Chromium	7.9		*	P
7440-48-4	Cobalt	3.5	J		P
7440-50-8	Copper	13.5			P
7439-89-6	Iron	9730		*	P
7439-92-1	Lead	7.5			P
7439-95-4	Magnesium	3320			P
7439-96-5	Manganese	280		*	P
7440-02-0	Nickel	6.0			P
7440-09-7	Potassium	1500			P
7782-49-2	Selenium	3.9	U		P
7440-22-4	Silver	1.1	U		P
7440-23-5	Sodium	223	J		P
7440-28-0	Thallium	2.8	U		P
7440-62-2	Vanadium	11.9		*	P
7440-66-6	Zinc	40.8			P

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH30Q3

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30S8

Matrix: SOIL Lab Sample ID: C4367-16

% Solids: 81.3 Date Received: 10/29/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9630			P
7440-36-0	Antimony	0.59	J		P
7440-38-2	Arsenic	5.8			P
7440-39-3	Barium	238			P
7440-41-7	Beryllium	0.88			P
7440-43-9	Cadmium	0.70			P
7440-70-2	Calcium	3580			P
7440-47-3	Chromium	9.3		*	P
7440-48-4	Cobalt	6.7			P
7440-50-8	Copper	19.0			P
7439-89-6	Iron	13600		*	P
7439-92-1	Lead	11.9			P
7439-95-4	Magnesium	4460			P
7439-96-5	Manganese	512		*	P
7440-02-0	Nickel	9.8			P
7440-09-7	Potassium	1820			P
7782-49-2	Selenium	3.8	U		P
7440-22-4	Silver	1.1	U		P
7440-23-5	Sodium	215	J		P
7440-28-0	Thallium	2.7	U		P
7440-62-2	Vanadium	14.7		*	P
7440-66-6	Zinc	49.9			P

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH30Q4

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30S8

Matrix: SOIL Lab Sample ID: C4367-17

% Solids: 77.3 Date Received: 10/29/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	14300			P
7440-36-0	Antimony	1.3	J		P
7440-38-2	Arsenic	10.7			P
7440-39-3	Barium	624			P
7440-41-7	Beryllium	0.63			P
7440-43-9	Cadmium	3.0			P
7440-70-2	Calcium	52300			P
7440-47-3	Chromium	19.2		*	P
7440-48-4	Cobalt	4.2	J		P
7440-50-8	Copper	37.5			P
7439-89-6	Iron	14700		*	P
7439-92-1	Lead	23.3			P
7439-95-4	Magnesium	6970			P
7439-96-5	Manganese	1590		*	P
7440-02-0	Nickel	18.2			P
7440-09-7	Potassium	7870			P
7782-49-2	Selenium	4.2	U		P
7440-22-4	Silver	0.37	J		P
7440-23-5	Sodium	1300			P
7440-28-0	Thallium	3.0	U		P
7440-62-2	Vanadium	22.9		*	P
7440-66-6	Zinc	239			P

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH30Q6

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30S8

Matrix: SOIL Lab Sample ID: C4367-18

% Solids: 52.0 Date Received: 10/29/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6230			P
7440-36-0	Antimony	2.0	J		P
7440-38-2	Arsenic	26.9			P
7440-39-3	Barium	842			P
7440-41-7	Beryllium	0.31	J		P
7440-43-9	Cadmium	12.5			P
7440-70-2	Calcium	215000		D	P
7440-47-3	Chromium	23.3		*	P
7440-48-4	Cobalt	3.3	J		P
7440-50-8	Copper	91.8			P
7439-89-6	Iron	5200		*	P
7439-92-1	Lead	61.4			P
7439-95-4	Magnesium	17600			P
7439-96-5	Manganese	4020		*	P
7440-02-0	Nickel	17.0			P
7440-09-7	Potassium	3000			P
7782-49-2	Selenium	5.7	U		P
7440-22-4	Silver	3.6			P
7440-23-5	Sodium	5180			P
7440-28-0	Thallium	0.80	J		P
7440-62-2	Vanadium	8.4		*	P
7440-66-6	Zinc	968			P

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH30Q8

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30S8

Matrix: SOIL Lab Sample ID: C4367-19

% Solids: 29.7 Date Received: 10/29/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	15000			P
7440-36-0	Antimony	3.4	J		P
7440-38-2	Arsenic	71.4			P
7440-39-3	Barium	1750		D	P
7440-41-7	Beryllium	0.53			P
7440-43-9	Cadmium	17.9			P
7440-70-2	Calcium	174000		D	P
7440-47-3	Chromium	29.1		*	P
7440-48-4	Cobalt	6.1			P
7440-50-8	Copper	150			P
7439-89-6	Iron	7520		*	P
7439-92-1	Lead	108			P
7439-95-4	Magnesium	18500			P
7439-96-5	Manganese	6840		*D	P
7440-02-0	Nickel	20.9			P
7440-09-7	Potassium	6020			P
7782-49-2	Selenium	0.95	J		P
7440-22-4	Silver	2.7			P
7440-23-5	Sodium	7070			P
7440-28-0	Thallium	2.2			P
7440-62-2	Vanadium	16.8		*	P
7440-66-6	Zinc	1300			P

Color Before: BLACK Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH30Q9

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30S8

Matrix: SOIL Lab Sample ID: C4367-20

% Solids: 72.6 Date Received: 10/29/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8480			P
7440-36-0	Antimony	0.38	J		P
7440-38-2	Arsenic	2.0			P
7440-39-3	Barium	173			P
7440-41-7	Beryllium	0.79			P
7440-43-9	Cadmium	0.58	J		P
7440-70-2	Calcium	1890			P
7440-47-3	Chromium	11.5		*	P
7440-48-4	Cobalt	3.8	J		P
7440-50-8	Copper	16.5			P
7439-89-6	Iron	12500		*	P
7439-92-1	Lead	7.9			P
7439-95-4	Magnesium	5280			P
7439-96-5	Manganese	89.7		*	P
7440-02-0	Nickel	7.1			P
7440-09-7	Potassium	1890			P
7782-49-2	Selenium	4.5	U		P
7440-22-4	Silver	1.3	U		P
7440-23-5	Sodium	1010			P
7440-28-0	Thallium	3.2	U		P
7440-62-2	Vanadium	14.4		*	P
7440-66-6	Zinc	41.1			P

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH30R0

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30S8

Matrix: SOIL Lab Sample ID: C4367-21

% Solids: 31.3 Date Received: 10/29/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5860			P
7440-36-0	Antimony	1.2	J		P
7440-38-2	Arsenic	8.9			P
7440-39-3	Barium	801			P
7440-41-7	Beryllium	0.15	J		P
7440-43-9	Cadmium	3.8			P
7440-70-2	Calcium	302000		D	P
7440-47-3	Chromium	29.2		*	P
7440-48-4	Cobalt	1.2	J		P
7440-50-8	Copper	49.8			P
7439-89-6	Iron	3530		*	P
7439-92-1	Lead	18.5			P
7439-95-4	Magnesium	11600			P
7439-96-5	Manganese	2090		*	P
7440-02-0	Nickel	21.2			P
7440-09-7	Potassium	1270	J		P
7782-49-2	Selenium	2.2	J		P
7440-22-4	Silver	1.9	J		P
7440-23-5	Sodium	7620			P
7440-28-0	Thallium	7.1	U		P
7440-62-2	Vanadium	11.0	J	*	P
7440-66-6	Zinc	346			P

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH30R1

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30S8

Matrix: SOIL Lab Sample ID: C4367-22

% Solids: 40.9 Date Received: 10/29/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1720			P
7440-36-0	Antimony	14.2	U		P
7440-38-2	Arsenic	2.0	J		P
7440-39-3	Barium	374			P
7440-41-7	Beryllium	1.2	U		P
7440-43-9	Cadmium	0.61	J		P
7440-70-2	Calcium	149000		D	P
7440-47-3	Chromium	11.0		*	P
7440-48-4	Cobalt	0.16	J		P
7440-50-8	Copper	33.2			P
7439-89-6	Iron	1320		*	P
7439-92-1	Lead	7.2			P
7439-95-4	Magnesium	2910			P
7439-96-5	Manganese	514		*	P
7440-02-0	Nickel	3.4	J		P
7440-09-7	Potassium	518	J		P
7782-49-2	Selenium	8.3	U		P
7440-22-4	Silver	0.68	J		P
7440-23-5	Sodium	3980			P
7440-28-0	Thallium	5.9	U		P
7440-62-2	Vanadium	2.1	J	*	P
7440-66-6	Zinc	90.8			P

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH30S8

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30S8

Matrix: SOIL Lab Sample ID: C4367-01

% Solids: 64.4 Date Received: 10/28/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9430			P
7440-36-0	Antimony	0.47	J		P
7440-38-2	Arsenic	6.5			P
7440-39-3	Barium	249			P
7440-41-7	Beryllium	0.89			P
7440-43-9	Cadmium	0.73			P
7440-70-2	Calcium	3330			P
7440-47-3	Chromium	9.0		*	P
7440-48-4	Cobalt	10.9			P
7440-50-8	Copper	17.4			P
7439-89-6	Iron	15000		*	P
7439-92-1	Lead	16.5			P
7439-95-4	Magnesium	4680			P
7439-96-5	Manganese	444		*	P
7440-02-0	Nickel	10.8			P
7440-09-7	Potassium	1580			P
7782-49-2	Selenium	5.0	U		P
7440-22-4	Silver	1.4	U		P
7440-23-5	Sodium	194	J		P
7440-28-0	Thallium	3.6	U		P
7440-62-2	Vanadium	15.7		*	P
7440-66-6	Zinc	57.7			P

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH30S9

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30S8

Matrix: SOIL Lab Sample ID: C4367-02

% Solids: 64.8 Date Received: 10/28/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	10000			P
7440-36-0	Antimony	0.50	J		P
7440-38-2	Arsenic	9.1			P
7440-39-3	Barium	221			P
7440-41-7	Beryllium	0.93			P
7440-43-9	Cadmium	0.80			P
7440-70-2	Calcium	3230			P
7440-47-3	Chromium	9.8		*	P
7440-48-4	Cobalt	9.6			P
7440-50-8	Copper	19.4			P
7439-89-6	Iron	16600		*	P
7439-92-1	Lead	12.2			P
7439-95-4	Magnesium	4870			P
7439-96-5	Manganese	849		*	P
7440-02-0	Nickel	10.7			P
7440-09-7	Potassium	1620			P
7782-49-2	Selenium	4.2	U		P
7440-22-4	Silver	1.2	U		P
7440-23-5	Sodium	163	J		P
7440-28-0	Thallium	3.0	U		P
7440-62-2	Vanadium	16.0		*	P
7440-66-6	Zinc	50.5			P

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH30T0

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30S8

Matrix: SOIL Lab Sample ID: C4367-03

% Solids: 74.9 Date Received: 10/28/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4440			P
7440-36-0	Antimony	7.7	U		P
7440-38-2	Arsenic	2.5			P
7440-39-3	Barium	106			P
7440-41-7	Beryllium	0.37	J		P
7440-43-9	Cadmium	0.37	J		P
7440-70-2	Calcium	1700			P
7440-47-3	Chromium	5.0		*	P
7440-48-4	Cobalt	3.5	J		P
7440-50-8	Copper	9.8			P
7439-89-6	Iron	7330		*	P
7439-92-1	Lead	5.7			P
7439-95-4	Magnesium	2410			P
7439-96-5	Manganese	160		*	P
7440-02-0	Nickel	5.0	J		P
7440-09-7	Potassium	885			P
7782-49-2	Selenium	4.5	U		P
7440-22-4	Silver	1.3	U		P
7440-23-5	Sodium	127	J		P
7440-28-0	Thallium	3.2	U		P
7440-62-2	Vanadium	8.1		*	P
7440-66-6	Zinc	41.4			P

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH30T1

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30S8

Matrix: SOIL Lab Sample ID: C4367-04

% Solids: 84.0 Date Received: 10/28/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1890			P
7440-36-0	Antimony	6.1	U		P
7440-38-2	Arsenic	5.0			P
7440-39-3	Barium	27.7			P
7440-41-7	Beryllium	0.20	J		P
7440-43-9	Cadmium	0.41	J		P
7440-70-2	Calcium	803			P
7440-47-3	Chromium	2.6		*	P
7440-48-4	Cobalt	2.0	J		P
7440-50-8	Copper	38.9			P
7439-89-6	Iron	5210		*	P
7439-92-1	Lead	6.6			P
7439-95-4	Magnesium	1680			P
7439-96-5	Manganese	163		*	P
7440-02-0	Nickel	2.9	J		P
7440-09-7	Potassium	303	J		P
7782-49-2	Selenium	3.5	U		P
7440-22-4	Silver	1.0	U		P
7440-23-5	Sodium	93.1	J		P
7440-28-0	Thallium	2.5	U		P
7440-62-2	Vanadium	4.8	J	*	P
7440-66-6	Zinc	54.2			P

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH30T2

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30S8

Matrix: SOIL Lab Sample ID: C4367-05

% Solids: 74.1 Date Received: 10/28/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3590			P
7440-36-0	Antimony	0.34	J		P
7440-38-2	Arsenic	3.0			P
7440-39-3	Barium	71.6			P
7440-41-7	Beryllium	0.34	J		P
7440-43-9	Cadmium	0.51			P
7440-70-2	Calcium	1660			P
7440-47-3	Chromium	5.1		*	P
7440-48-4	Cobalt	2.0	J		P
7440-50-8	Copper	34.8			P
7439-89-6	Iron	6340		*	P
7439-92-1	Lead	8.4			P
7439-95-4	Magnesium	2080			P
7439-96-5	Manganese	70.4		*	P
7440-02-0	Nickel	3.6	J		P
7440-09-7	Potassium	672			P
7782-49-2	Selenium	3.4	U		P
7440-22-4	Silver	0.97	U		P
7440-23-5	Sodium	105	J		P
7440-28-0	Thallium	2.4	U		P
7440-62-2	Vanadium	9.3		*	P
7440-66-6	Zinc	86.6			P

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH30T3

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30S8

Matrix: SOIL Lab Sample ID: C4367-06

% Solids: 75.7 Date Received: 10/28/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2090			P
7440-36-0	Antimony	0.37	J		P
7440-38-2	Arsenic	2.7			P
7440-39-3	Barium	32.2			P
7440-41-7	Beryllium	0.22	J		P
7440-43-9	Cadmium	0.29	J		P
7440-70-2	Calcium	1320			P
7440-47-3	Chromium	3.7		*	P
7440-48-4	Cobalt	1.6	J		P
7440-50-8	Copper	17.4			P
7439-89-6	Iron	5670		*	P
7439-92-1	Lead	5.4			P
7439-95-4	Magnesium	1720			P
7439-96-5	Manganese	62.6		*	P
7440-02-0	Nickel	2.8	J		P
7440-09-7	Potassium	387	J		P
7782-49-2	Selenium	3.9	U		P
7440-22-4	Silver	1.1	U		P
7440-23-5	Sodium	188	J		P
7440-28-0	Thallium	2.8	U		P
7440-62-2	Vanadium	10.0		*	P
7440-66-6	Zinc	58.8			P

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH30T4

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30S8

Matrix: SOIL Lab Sample ID: C4367-07

% Solids: 86.0 Date Received: 10/28/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2460			P
7440-36-0	Antimony	0.35	J		P
7440-38-2	Arsenic	2.9			P
7440-39-3	Barium	30.7			P
7440-41-7	Beryllium	0.23	J		P
7440-43-9	Cadmium	0.37	J		P
7440-70-2	Calcium	1410			P
7440-47-3	Chromium	4.3		*	P
7440-48-4	Cobalt	1.7	J		P
7440-50-8	Copper	15.5			P
7439-89-6	Iron	6980		*	P
7439-92-1	Lead	4.8			P
7439-95-4	Magnesium	1970			P
7439-96-5	Manganese	85.5		*	P
7440-02-0	Nickel	3.9			P
7440-09-7	Potassium	388	J		P
7782-49-2	Selenium	3.4	U		P
7440-22-4	Silver	0.96	U		P
7440-23-5	Sodium	146	J		P
7440-28-0	Thallium	2.4	U		P
7440-62-2	Vanadium	12.4		*	P
7440-66-6	Zinc	59.4			P

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH30T5

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30S8

Matrix: SOIL Lab Sample ID: C4367-08

% Solids: 73.1 Date Received: 10/28/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5490			P
7440-36-0	Antimony	0.49	J		P
7440-38-2	Arsenic	4.2			P
7440-39-3	Barium	117			P
7440-41-7	Beryllium	0.54			P
7440-43-9	Cadmium	0.47	J		P
7440-70-2	Calcium	2510			P
7440-47-3	Chromium	8.4		*	P
7440-48-4	Cobalt	3.2	J		P
7440-50-8	Copper	17.0			P
7439-89-6	Iron	9820		*	P
7439-92-1	Lead	7.8			P
7439-95-4	Magnesium	3450			P
7439-96-5	Manganese	131		*	P
7440-02-0	Nickel	6.3			P
7440-09-7	Potassium	994			P
7782-49-2	Selenium	3.5	U		P
7440-22-4	Silver	1.0	U		P
7440-23-5	Sodium	438	J		P
7440-28-0	Thallium	2.5	U		P
7440-62-2	Vanadium	14.5		*	P
7440-66-6	Zinc	42.6			P

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH30T6

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30S8

Matrix: SOIL Lab Sample ID: C4367-09

% Solids: 74.2 Date Received: 10/28/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4200			P
7440-36-0	Antimony	0.52	J		P
7440-38-2	Arsenic	9.2			P
7440-39-3	Barium	113			P
7440-41-7	Beryllium	0.41	J		P
7440-43-9	Cadmium	0.74			P
7440-70-2	Calcium	3220			P
7440-47-3	Chromium	6.5		*	P
7440-48-4	Cobalt	3.1	J		P
7440-50-8	Copper	73.3			P
7439-89-6	Iron	8840		*	P
7439-92-1	Lead	14.8			P
7439-95-4	Magnesium	3230			P
7439-96-5	Manganese	251		*	P
7440-02-0	Nickel	5.2			P
7440-09-7	Potassium	857			P
7782-49-2	Selenium	3.3	U		P
7440-22-4	Silver	0.10	J		P
7440-23-5	Sodium	118	J		P
7440-28-0	Thallium	2.4	U		P
7440-62-2	Vanadium	13.0		*	P
7440-66-6	Zinc	156			P

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH30T7

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30S8

Matrix: SOIL Lab Sample ID: C4367-10

% Solids: 72.8 Date Received: 10/28/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3190			P
7440-36-0	Antimony	0.52	J		P
7440-38-2	Arsenic	6.5			P
7440-39-3	Barium	82.1			P
7440-41-7	Beryllium	0.33	J		P
7440-43-9	Cadmium	0.57	J		P
7440-70-2	Calcium	2670			P
7440-47-3	Chromium	7.0		*	P
7440-48-4	Cobalt	2.5	J		P
7440-50-8	Copper	43.2			P
7439-89-6	Iron	8040		*	P
7439-92-1	Lead	10.6			P
7439-95-4	Magnesium	2580			P
7439-96-5	Manganese	201		*	P
7440-02-0	Nickel	5.1	J		P
7440-09-7	Potassium	583	J		P
7782-49-2	Selenium	4.8	U		P
7440-22-4	Silver	1.4	U		P
7440-23-5	Sodium	99.0	J		P
7440-28-0	Thallium	3.4	U		P
7440-62-2	Vanadium	15.2		*	P
7440-66-6	Zinc	127			P

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

REGION VIII
DATA VALIDATION REPORT
INORGANIC

Case No. / TDD No.	Site Name		Operable Unit
41926 / 1109-07	Smurfit Stone Mill		
RPM/OSC Name			
Robert Parker			
Contractor Laboratory	**Contract No.**	**SDG No.**	**Laboratory DPO/Region**
Chemtech Consulting Group	EP-W-09-038	MH30S4	

Review Assigned Date: February 9, 2012 Data Validator: Bill Fear
Review Completion Date: February 16, 2012 Report Reviewer: Lisa Tyson

Sample ID	Matrix	Analysis
MH30S4	Soil	CLP – ICP-AES Metals (ISM01.3)
MH30S5		
MH3BB7		
MH3BB8		
MH3BB9		
MH3BC0		
MH3BC1		
MH3BC2		
MH3BC3		
MH3BC4		
MH3BC5		
MH3BC6		
MH3BC7		
MH3BC8		
MH3BC9		
MH3BD0		

DATA QUALITY STATEMENT

( ) Data are ACCEPTABLE according to EPA Functional guidelines with no qualifiers (flags) added by the reviewer.
( ) Data are UNACCEPTABLE according to EPA Functional Guidelines.
(X) Data are acceptable with QUALIFICATIONS noted in review.

Telephone/Communication Logs Enclosed? Yes _____ No ___X_____

CLP Project Officer Attention Required? Yes _____ No ___X_____ If yes, list the items that require attention:

INORGANIC DATA VALIDATION REPORT

REVIEW NARRATIVE SUMMARY

This data package was reviewed according to "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review," January 2010. Raw data were reviewed for completeness and transcription accuracy onto the summary forms. Approximately 10-20% of the results reported in each of the samples, calibrations, and QC analyses were recalculated and verified. If problems were identified during the recalculation of results, a more thorough calculation check was performed.

The data package, SDG No. MH30S4, consisted of 16 soil samples for CLP metals by ISM01.3. The following table lists the data qualifiers added to the sample analyses. Please see Data Qualifier Definitions, attached to the end of this report.

Sample ID	Elements	Qualifiers	Reason for Qualification	Review Section
MH30S4, MH30S5, MH3BB7, MH3BB9, MH3BC1, MH3BC2, MH3BC3, MH3BC4, MH3BC5, MH3BC6, MH3BC7, MH3BC8, MH3BC9, MH3BD0	Antimony	U	Blank contamination	6
MH30S4, MH30S5, MH3BB7, MH3BB8, MH3BB9, MH3BC0, MH3BC1, MH3BC2, MH3BC3, MH3BC4, MH3BC5, MH3BC6, MH3BC7, MH3BC9, MH3BD0	Cobalt			
MH3BB7, MH3BB8, MH3BB9	Lead			
MH3BB7, MH3BB8, MH3BB9, MH3BC2, MH3BC3, MH3BC4, MH3BC5, MH3BC8, MH3BD0	Potassium			
MH3BB7, MH3BB8, MH3BB9, MH3BC1, MH3BC2, MH3BC3, MH3BC4, MH3BC5, MH3BD0	Vanadium			
MH3BB7, MH3BB9, MH3BC1, MH3BC2, MH3BC3, MH3BC4, MH3BC5, MH3BC6, MH3BC7, MH3BC8, MH3BD0	Antimony	J+	ICP interference	7
MH3BB7, MH3BB8, MH3BB9, MH3BC0, MH3BC1, MH3BC2, MH3BC3, MH3BC4, MH3BC6, MH3BD0	Arsenic			
MH3BB7, MH3BC0, MH3BC1, MH3BC3, MH3BC4, MH3BC5, MH3BC6, MH3BC7, MH3BC8, MH3BC9, MH3BD0	Beryllium			

Sample ID	Elements	Qualifiers	Reason for Qualification	Review Section
MH3BB7, MH3BB8, MH3BB9, MH3BC0, MH3BC1, MH3BC3, MH3BC5, MH3BC6, MH3BC8, MH3BD0	Cadmium	J+	ICP interference	7
MH3BB7, MH3BB8, MH3BB9, MH3BC1, MH3BC3, MH3BC4	Vanadium			
MH3BB7, MH3BB8, MH3BB9, MH3BC0, MH3BC1, MH3BC2, MH3BC3, MH3BC4, MH3BC5, MH3BC6, MH3BC7, MH3BC8, MH3BC9, MH3BD0	Silver	J-/UJ		
All samples	Barium Chromium Cobalt Copper Lead Nickel Vanadium Zinc	J/UJ	Matrix spike recovery < 75% but post spike recovery >75%	8
	Antimony Beryllium Selenium	J-/UJ	Matrix spike recovery and post spike recovery <75% or no post digestion spike analysis	
	Arsenic	J/UJ	Duplicate criteria not met	10
	Calcium Lead Potassium		Serial dilution criteria not met	13

Bias was not assigned to various antimony and vanadium results because these results were qualified as not detected due to laboratory blank contamination. Additionally, bias was not assigned to various beryllium results because the results were qualified with both a positive and a negative bias.

1. DELIVERABLES

All deliverables were present.

Yes X No____

Comments: None.

2. HOLDING TIMES AND PRESERVATION CRITERIA

All technical holding times and preservation criteria were met.

Yes X No____

Comments: The samples were analyzed within holding times. The sample coolers were received within the recommended temperature range of 4 ± 2 ºC.

Several of the soil samples were received with non-CLP IDs. The Region 8 SMO coordinator assigned new CLP IDs to these samples. The laboratory also noted that sample tags were not included with these samples.

No other shipping or receiving problems were noted. Chain-of-custody, summary forms, and raw data were evaluated.

3. INSTRUMENT CALIBRATIONS: STANDARDS AND BLANKS

The instruments were calibrated daily and each time an analysis run was performed.

Yes X No____

Comments: None.

The instruments were calibrated using one blank and the appropriate number of standards.

Yes X No____

Comments: None.

The correlation coefficient was > 0.995, percent differences were within ±30%, or the y-intercept was <CRQL.

Yes X No____

Comments: None.

4. FORM 1 - SAMPLE ANALYSIS RESULTS

Sample analyses were entered correctly on Form Is.

Yes X No____

Comments: None.

5. FORM 2A - INITIAL AND CONTINUING CALIBRATION VERIFICATION

The initial and continuing calibration verification standards (ICV and CCV, respectively) met SOW requirements.

Yes X No____

Comments: None.

The calibration verification results were within 90-110% recovery for metals.

Yes X No____

Comments: None.

The continuing calibration standards were run every two hours and at the beginning of the run, and again after the last analytical sample.

Yes X No____

Comments: None.

6. FORM 3 - BLANKS

The initial and continuing calibration blanks (ICB and CCB, respectively) frequency met SOW requirements.

Yes X No____

Comments: None.

A laboratory/preparation blank was run at the frequency of one per twenty samples, or per sample delivery group (whichever is more frequent), and for each matrix analyzed.

Yes X No____

Comments: None.

All analyzed blanks were free of contamination.

Yes___ No_X_

Comments: The following table lists the blanks with contamination that resulted in sample qualification, elements present, affected samples, and data qualifiers:

Blank Contaminants

Blank ID	Contaminant	Concentration Found in Blank	Associated Samples	Concentration Found in Sample	Qualifier/ Adjustment
CCB	Antimony	1.937 ug/L	MH30S4 MH30S5 MH3BB7 MH3BB9 MH3BC1 MH3BC2 MH3BC3 MH3BC4 MH3BC5 MH3BC6 MH3BC7 MH3BC8 MH3BC9 MH3BD0	≤CRQL	6.9 U 5.7 U 10.9 U 7.0 U 4.6 U 11.2 U 10.5 U 11.4 U 10.7 U 5.8 U 4.9 U 6.4 U 5.2 U 8.5 U
	Cobalt	0.734 ug/L	MH30S4 MH30S5 MH3BB7 MH3BB8 MH3BB9 MH3BC0 MH3BC1 MH3BC2 MH3BC3 MH3BC4 MH3BC5 MH3BC6 MH3BC7 MH3BC9 MH3BD0		5.7 U 4.8 U 9.1 U 12.0 U 5.9 U 9.4 U 3.8 U 9.4 U 8.7 U 9.5 U 8.9 U 4.8 U 4.0 U 4.4 U 7.0 U
	Lead	8.429 ug/L	MH3BB7 MH3BB8 MH3BB9	6.7 7.7 2.2	U
	Potassium	136.5 ug/L	MH3BB7 MH3BB8 MH3BB9 MH3BC2 MH3BC3 MH3BC4 MH3BC5 MH3BC8 MH3BD0	≤CRQL	912 U 1200 U 586 U 936 U 871 U 952 U 890 U 532 U 705 U

Blank ID	Contaminant	Concentration Found in Blank	Associated Samples	Concentration Found in Sample	Qualifier/ Adjustment
CCB	Vanadium	1.021 ug/L	MH3BB7 MH3BB8 MH3BB9 MH3BC1 MH3BC2 MH3BC3 MH3BC4 MH3BC5 MH3BD0	≤CRQL	9.1 U 12.0 U 5.9 U 3.8 U 9.4 U 8.7 U 9.5 U 8.9 U 7.0 U

7. FORM 4 - ICP INTERFERENCE CHECK SAMPLE

The ICS was analyzed at the beginning of each analysis run but not prior to the Initial Calibration Verification (ICV), and immediately followed by a Continuing Calibration Verification/Continuing Calibration Blank (CCV/CCB).

Yes X No____

Comments: None.

Percent recovery of the analytes in the ICS AB solutions were within the range of 80-120% or the result was within ± the CRQL (or within ±2x the CRQL for ICP-MS).

Yes X No____

Comments: None.

Sample results for aluminum, calcium, iron, and magnesium were less than the ICSA values.

Yes____ No X

Comments: The following sample results were qualified because the results for iron or calcium were greater than the ICSA value and the absolute value of the associated element was greater than the MDL in the ICSA analysis:

Element	ICSA Result (ug/L)	MDL (ug/L)	Samples Affected	Qualifiers
Antimony	2.6	1.7	MH3BB7, MH3BB9, MH3BC1, MH3BC2, MH3BC3, MH3BC4, MH3BC5, MH3BC6, MH3BC7, MH3BC8, MH3BD0	J+
Arsenic	4.2	2.5	MH3BB7, MH3BB8, MH3BB9, MH3BC0, MH3BC1, MH3BC2, MH3BC3, MH3BC4, MH3BC6, MH3BD0	

Element	ICSA Result (ug/L)	MDL (ug/L)	Samples Affected	Qualifiers
Beryllium	1.8	0.40	MH3BB7, MH3BC0, MH3BC1, MH3BC3, MH3BC4, MH3BC5, MH3BC6, MH3BC7, MH3BC8, MH3BC9, MH3BD0	J+
Cadmium	4.4	0.12	MH3BB7, MH3BB8, MH3BB9, MH3BC0, MH3BC1, MH3BC3, MH3BC5, MH3BC6, MH3BC8, MH3BD0	
Vanadium	3.3	0.33	MH3BB7, MH3BB8, MH3BB9, MH3BC1, MH3BC3, MH3BC4	
Silver	-2.1	0.67	MH3BB7, MH3BB8, MH3BB9, MH3BC0, MH3BC1, MH3BC2, MH3BC3, MH3BC4, MH3BC5, MH3BC6, MH3BC7, MH3BC8, MH3BC9, MH3BD0	J-/UJ

Bias was not assigned to various antimony and vanadium results because these results were qualified as not detected due to laboratory blank contamination. Additionally, positive bias was not assigned to the beryllium results because the results were qualified with a negative bias for a low matrix spike recovery.

8. FORM 5A - MATRIX SPIKE SAMPLE ANALYSIS

A matrix spike sample was analyzed with every twenty or fewer samples of a similar matrix, or one per sample delivery group (whichever is more frequent).

Yes X No___ NA___

Comments: None.

The percent recoveries (%Rs) were calculated correctly.

Yes X No___ NA___

Comments: None.

Spike recoveries were within the range of 75-125% (an exception is granted where the sample concentration is four times the spike concentration).

Yes___ No X

Comments: The following table lists the spike recoveries outside control limits, post digestion spike recoveries, samples affected, and data qualifiers:

Element	Matrix Spike %R	Post-Digestion %R	Samples Affected	Qualifiers
Antimony	61%	--	All samples	J-/UJ
Barium	60%	105%		J/UJ
Beryllium	69%	22%		J-/UJ
Chromium	65%	105%		J/UJ
Cobalt	70%	406%		
Copper	66%	95.6%		
Lead	60%	136.8%		
Nickel	68%	124%		
Selenium	64%	26.8%		J-/UJ
Vanadium	72%	152%		J/UJ
Zinc	44%	105%		

Bias was not assigned to various antimony results because these results were qualified as not detected due to laboratory blank contamination. Additionally, negative bias was not assigned to several beryllium results because the results were qualified with a positive bias for ICSA interference.

9. FORM 5B - POST DIGEST SPIKE RECOVERY

A post-digest spike was performed for those elements that did not meet the specified criteria (i.e., Pre-digestion/pre-distillation spike recovery falls outside of control limits and sample result is less than four times the spike amount added, exception: Ag, Hg).

Yes X No___ NA___

Comments: See previous section for post-digestion spike recoveries.

10. FORM 6 - DUPLICATE SAMPLE ANALYSIS

Duplicate sample analysis was performed with every twenty or fewer samples of a similar matrix, or one per sample delivery group (whichever is more frequent).

Yes X No___ NA___

Comments: None.

The RPDs were calculated correctly.

Yes X No___ NA___

Comments: None.

For sample concentrations greater than five times the CRQL, RPDs were within ±20% (limits of ±35% apply for soil/sediments/tailings samples).

Yes X No___ NA___

Comments: None.

For sample concentrations less than five times the CRQL, duplicate analysis results were within the control window of ±CRQL (two times CRQL for soils).

Yes___ No X NA___

Comments: The following table lists the duplicate result outside control limits, samples affected, and data qualifiers:

Element	Difference	QC limit	Samples Affected	Qualifiers
Arsenic	3.9	3.6	All samples	J/UJ

Note: Arsenic was detected above the CRQL in the duplicate analysis, but was not detected in the original sample analysis.

11. ICP-MS

Comments**:** ICP-MS analyses were not performed on these samples.

12. FORM 7 - LABORATORY CONTROL SAMPLE

The laboratory control sample (LCS) was prepared and analyzed with every twenty or fewer samples of a similar matrix, or one per sample delivery group (whichever is more frequent).

Yes X No___

Comments: None.

All results were within control limits.

Yes X No___

Comments: Results were within control limits.

13. FORM 8 – SERIAL DILUTION

A serial dilution was performed for ICP analysis with every twenty or fewer samples of a similar matrix, or one per sample delivery group, whichever is more frequent.

Yes X No____

Comments: None.

The serial dilution was without interference problems as defined by the SOW.

Yes____ No X

Comments: The following serial dilution %Ds were greater than 10% and the original sample result was at least 50* the MDL:

Element	% Difference	Samples Affected	Qualifiers
Calcium	14%	All samples	J/UJ
Lead	13%		
Potassium	19%		

14. FORM 9 - ANNUAL METHOD DETECTION LIMITS (MDL)

MDLs were provided for all elements on the target analyte list.

Yes X No____

Comments: None.

Reported MDLs met SOW requirements.

Yes X No____

Comments: None.

15. FORM 10 - INTERELEMENT CORRECTION FACTORS FOR ICP

Interelement corrections for ICP were reported.

Yes X No____

Comments: None.

16. FORM 12 - PREPARATION LOG

Information on the preparation of samples for analysis was reported on Form 12.

Yes X No____

Comments: None.

17. FORM 13 - ANALYSIS RUN LOG

A Form 13 with the required information was filled out for each analysis run in the data package.

Yes X No____

Comments: None.

18. Additional Comments or Problems/Resolutions Not Addressed Above

Yes____ No X

Comments: None.

INORGANIC DATA QUALITY ASSURANCE REVIEW

Region VIII

DATA QUALIFIER DEFINITIONS

For the purpose of Data Validation, the following code letters and associated definitions are provided for use by the data validator to summarize the data quality. Use of additional qualifiers should be carefully considered. Definitions for all qualifiers used should be provided with each report.

GENERAL QUALIFIERS for use with both INORGANIC and ORGANIC DATA

R	-	Reported value is "rejected." The data are unusable. Resampling or reanalysis may be necessary to verify the presence or absence of the compound.
J	-	The associated numerical value is an estimated quantity and is the approximate concentration of the analyte in the sample.
J+	-	The associated numerical value is an estimated quantity but the result may be biased high.
J-	-	The associated numerical value is an estimated quantity but the result may be biased low.
U J	-	The reported quantitation limit is estimated because Quality Control criteria were not met. Element or compound may or may not be present in the sample.
N J	-	Estimated value of a tentatively identified compound. (Identified with a CAS number.) ORGANICS analysis only.
U	-	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH30S4

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30S4

Matrix: SOIL Lab Sample ID: C4462-01

% Solids: 62.3 Date Received: 10/29/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9130			P
7440-36-0	Antimony	0.70	J	N	P
7440-38-2	Arsenic	2.5			P
7440-39-3	Barium	306		N	P
7440-41-7	Beryllium	0.67		N	P
7440-43-9	Cadmium	0.94			P
7440-70-2	Calcium	6760		E	P
7440-47-3	Chromium	14.7		N	P
7440-48-4	Cobalt	3.5	J	N	P
7440-50-8	Copper	18.4		N	P
7439-89-6	Iron	10400			P
7439-92-1	Lead	11.8		NE	P
7439-95-4	Magnesium	6400			P
7439-96-5	Manganese	238			P
7440-02-0	Nickel	8.3		N	P
7440-09-7	Potassium	2610		E	P
7782-49-2	Selenium	4.0	U	N	P
7440-22-4	Silver	1.1	U		P
7440-23-5	Sodium	1010			P
7440-28-0	Thallium	2.9	U		P
7440-62-2	Vanadium	12.1		N	P
7440-66-6	Zinc	72.3		N	P

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH30S5

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30S4

Matrix: SOIL Lab Sample ID: C4462-02

% Solids: 79.7 Date Received: 10/29/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6610			P
7440-36-0	Antimony	0.41	J	N	P
7440-38-2	Arsenic	1.4			P
7440-39-3	Barium	158		N	P
7440-41-7	Beryllium	0.38	J	N	P
7440-43-9	Cadmium	0.55			P
7440-70-2	Calcium	1880		E	P
7440-47-3	Chromium	9.5		N	P
7440-48-4	Cobalt	2.2	J	N	P
7440-50-8	Copper	26.8		N	P
7439-89-6	Iron	8000			P
7439-92-1	Lead	8.9		NE	P
7439-95-4	Magnesium	3020			P
7439-96-5	Manganese	98.2			P
7440-02-0	Nickel	5.2		N	P
7440-09-7	Potassium	1500		E	P
7782-49-2	Selenium	3.3	U	N	P
7440-22-4	Silver	0.95	U		P
7440-23-5	Sodium	1060			P
7440-28-0	Thallium	2.4	U		P
7440-62-2	Vanadium	10.8		N	P
7440-66-6	Zinc	58.6		N	P

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3BB7

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30S4

Matrix: SOIL Lab Sample ID: C4462-03

% Solids: 40.6 Date Received: 11/03/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3550			P
7440-36-0	Antimony	0.45	J	N	P
7440-38-2	Arsenic	3.0			P
7440-39-3	Barium	355		N	P
7440-41-7	Beryllium	0.10	J	N	P
7440-43-9	Cadmium	1.6			P
7440-70-2	Calcium	283000		ED	P
7440-47-3	Chromium	14.7		N	P
7440-48-4	Cobalt	0.72	J	N	P
7440-50-8	Copper	16.2		N	P
7439-89-6	Iron	2600			P
7439-92-1	Lead	6.7		NE	P
7439-95-4	Magnesium	6370			P
7439-96-5	Manganese	870			P
7440-02-0	Nickel	10.0		N	P
7440-09-7	Potassium	674	J	E	P
7782-49-2	Selenium	6.4	U	N	P
7440-22-4	Silver	0.58	J		P
7440-23-5	Sodium	4400			P
7440-28-0	Thallium	4.6	U		P
7440-62-2	Vanadium	5.7	J	N	P
7440-66-6	Zinc	107		N	P

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3BB8

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30S4

Matrix: SOIL Lab Sample ID: C4462-04

% Solids: 33.2 Date Received: 11/03/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2810			P
7440-36-0	Antimony	14.5	U	N	P
7440-38-2	Arsenic	3.9			P
7440-39-3	Barium	317		N	P
7440-41-7	Beryllium	1.2	U	N	P
7440-43-9	Cadmium	1.8			P
7440-70-2	Calcium	126000		ED	P
7440-47-3	Chromium	14.8		N	P
7440-48-4	Cobalt	0.48	J	N	P
7440-50-8	Copper	30.0		N	P
7439-89-6	Iron	1520			P
7439-92-1	Lead	7.7		NE	P
7439-95-4	Magnesium	7140			P
7439-96-5	Manganese	1220			P
7440-02-0	Nickel	11.4		N	P
7440-09-7	Potassium	559	J	E	P
7782-49-2	Selenium	0.69	J	N	P
7440-22-4	Silver	1.4	J		P
7440-23-5	Sodium	4100			P
7440-28-0	Thallium	6.0	U		P
7440-62-2	Vanadium	5.1	J	N	P
7440-66-6	Zinc	175		N	P

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3BB9

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30S4

Matrix: SOIL Lab Sample ID: C4462-05

% Solids: 63.7 Date Received: 11/03/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1010			P
7440-36-0	Antimony	0.30	J	N	P
7440-38-2	Arsenic	2.3			P
7440-39-3	Barium	281		N	P
7440-41-7	Beryllium	0.59	U	N	P
7440-43-9	Cadmium	0.74			P
7440-70-2	Calcium	242000		ED	P
7440-47-3	Chromium	11.7		N	P
7440-48-4	Cobalt	0.24	J	N	P
7440-50-8	Copper	14.9		N	P
7439-89-6	Iron	960			P
7439-92-1	Lead	2.2		NE	P
7439-95-4	Magnesium	5350			P
7439-96-5	Manganese	598			P
7440-02-0	Nickel	8.0		N	P
7440-09-7	Potassium	497	J	E	P
7782-49-2	Selenium	0.48	J	N	P
7440-22-4	Silver	0.48	J		P
7440-23-5	Sodium	10100			P
7440-28-0	Thallium	2.9	U		P
7440-62-2	Vanadium	2.4	J	N	P
7440-66-6	Zinc	80.0		N	P

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3BC0

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30S4

Matrix: SOIL Lab Sample ID: C4462-06

% Solids: 39.0 Date Received: 11/03/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4580			P
7440-36-0	Antimony	11.2	U	N	P
7440-38-2	Arsenic	3.3			P
7440-39-3	Barium	393		N	P
7440-41-7	Beryllium	0.14	J	N	P
7440-43-9	Cadmium	1.4			P
7440-70-2	Calcium	198000		ED	P
7440-47-3	Chromium	25.5		N	P
7440-48-4	Cobalt	0.95	J	N	P
7440-50-8	Copper	25.6		N	P
7439-89-6	Iron	3380			P
7439-92-1	Lead	10.2		NE	P
7439-95-4	Magnesium	9090			P
7439-96-5	Manganese	717			P
7440-02-0	Nickel	25.9		N	P
7440-09-7	Potassium	1080		E	P
7782-49-2	Selenium	1.2	J	N	P
7440-22-4	Silver	0.57	J		P
7440-23-5	Sodium	9420			P
7440-28-0	Thallium	4.7	U		P
7440-62-2	Vanadium	14.9		N	P
7440-66-6	Zinc	128		N	P

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3BC1

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30S4

Matrix: SOIL Lab Sample ID: C4462-07

% Solids: 23.0 Date Received: 11/03/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2660			P
7440-36-0	Antimony	0.47	J	N	P
7440-38-2	Arsenic	2.8			P
7440-39-3	Barium	386		N	P
7440-41-7	Beryllium	0.06	J	N	P
7440-43-9	Cadmium	2.6			P
7440-70-2	Calcium	103000		ED	P
7440-47-3	Chromium	9.6		N	P
7440-48-4	Cobalt	0.85	J	N	P
7440-50-8	Copper	34.6		N	P
7439-89-6	Iron	1160			P
7439-92-1	Lead	6.2		NE	P
7439-95-4	Magnesium	4990			P
7439-96-5	Manganese	1050			P
7440-02-0	Nickel	6.9		N	P
7440-09-7	Potassium	577		E	P
7782-49-2	Selenium	0.76	J	N	P
7440-22-4	Silver	1.2			P
7440-23-5	Sodium	6180			P
7440-28-0	Thallium	1.9	U		P
7440-62-2	Vanadium	2.7	J	N	P
7440-66-6	Zinc	197		N	P

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3BC2

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30S4

Matrix: SOIL Lab Sample ID: C4462-08

% Solids: 44.9 Date Received: 11/03/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2450			P
7440-36-0	Antimony	1.2	J	N	P
7440-38-2	Arsenic	3.4			P
7440-39-3	Barium	314		N	P
7440-41-7	Beryllium	0.94	U	N	P
7440-43-9	Cadmium	12.7			P
7440-70-2	Calcium	148000		ED	P
7440-47-3	Chromium	12.8		N	P
7440-48-4	Cobalt	0.36	J	N	P
7440-50-8	Copper	20.4		N	P
7439-89-6	Iron	1490			P
7439-92-1	Lead	13.1		NE	P
7439-95-4	Magnesium	3180			P
7439-96-5	Manganese	797			P
7440-02-0	Nickel	11.8		N	P
7440-09-7	Potassium	420	J	E	P
7782-49-2	Selenium	1.2	J	N	P
7440-22-4	Silver	0.78	J		P
7440-23-5	Sodium	3840			P
7440-28-0	Thallium	4.7	U		P
7440-62-2	Vanadium	8.2	J	N	P
7440-66-6	Zinc	197		N	P

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3BC3

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30S4

Matrix: SOIL Lab Sample ID: C4462-09

% Solids: 42.5 Date Received: 11/03/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3800			P
7440-36-0	Antimony	0.86	J	N	P
7440-38-2	Arsenic	5.4			P
7440-39-3	Barium	475		N	P
7440-41-7	Beryllium	0.12	J	N	P
7440-43-9	Cadmium	2.6			P
7440-70-2	Calcium	183000		ED	P
7440-47-3	Chromium	18.7		N	P
7440-48-4	Cobalt	0.87	J	N	P
7440-50-8	Copper	21.0		N	P
7439-89-6	Iron	2720			P
7439-92-1	Lead	9.1		NE	P
7439-95-4	Magnesium	4830			P
7439-96-5	Manganese	1180			P
7440-02-0	Nickel	5.8	J	N	P
7440-09-7	Potassium	841	J	E	P
7782-49-2	Selenium	0.99	J	N	P
7440-22-4	Silver	0.49	J		P
7440-23-5	Sodium	4280			P
7440-28-0	Thallium	4.4	U		P
7440-62-2	Vanadium	4.4	J	N	P
7440-66-6	Zinc	137		N	P

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3BC4

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30S4

Matrix: SOIL Lab Sample ID: C4462-10

% Solids: 37.8 Date Received: 11/03/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4230			P
7440-36-0	Antimony	0.73	J	N	P
7440-38-2	Arsenic	4.6			P
7440-39-3	Barium	644		N	P
7440-41-7	Beryllium	0.10	J	N	P
7440-43-9	Cadmium	12.1			P
7440-70-2	Calcium	190000		ED	P
7440-47-3	Chromium	26.3		N	P
7440-48-4	Cobalt	1.6	J	N	P
7440-50-8	Copper	68.4		N	P
7439-89-6	Iron	3250			P
7439-92-1	Lead	11.2		NE	P
7439-95-4	Magnesium	6820			P
7439-96-5	Manganese	1990			P
7440-02-0	Nickel	17.0		N	P
7440-09-7	Potassium	541	J	E	P
7782-49-2	Selenium	1.0	J	N	P
7440-22-4	Silver	2.6			P
7440-23-5	Sodium	7670			P
7440-28-0	Thallium	4.8	U		P
7440-62-2	Vanadium	3.1	J	N	P
7440-66-6	Zinc	441		N	P

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3BC5

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30S4

Matrix: SOIL Lab Sample ID: C4462-11

% Solids: 56.2 Date Received: 11/03/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5180			P
7440-36-0	Antimony	1.5	J	N	P
7440-38-2	Arsenic	1.8	U		P
7440-39-3	Barium	675		N	P
7440-41-7	Beryllium	0.10	J	N	P
7440-43-9	Cadmium	3.6			P
7440-70-2	Calcium	200000		ED	P
7440-47-3	Chromium	23.2		N	P
7440-48-4	Cobalt	1.2	J	N	P
7440-50-8	Copper	52.3		N	P
7439-89-6	Iron	2520			P
7439-92-1	Lead	15.9		NE	P
7439-95-4	Magnesium	6250			P
7439-96-5	Manganese	1870			P
7440-02-0	Nickel	21.2		N	P
7440-09-7	Potassium	796	J	E	P
7782-49-2	Selenium	4.2	J	N	P
7440-22-4	Silver	1.8			P
7440-23-5	Sodium	5260			P
7440-28-0	Thallium	4.4	U		P
7440-62-2	Vanadium	8.6	J	N	P
7440-66-6	Zinc	328		N	P

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3BC6

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30S4

Matrix: SOIL Lab Sample ID: C4462-14

% Solids: 73.7 Date Received: 11/03/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	10200			P
7440-36-0	Antimony	0.43	J	N	P
7440-38-2	Arsenic	2.0			P
7440-39-3	Barium	204		N	P
7440-41-7	Beryllium	0.81		N	P
7440-43-9	Cadmium	0.73			P
7440-70-2	Calcium	2660		E	P
7440-47-3	Chromium	11.8		N	P
7440-48-4	Cobalt	3.7	J	N	P
7440-50-8	Copper	16.6		N	P
7439-89-6	Iron	12700			P
7439-92-1	Lead	9.2		NE	P
7439-95-4	Magnesium	4760			P
7439-96-5	Manganese	104			P
7440-02-0	Nickel	8.3		N	P
7440-09-7	Potassium	1800		E	P
7782-49-2	Selenium	3.4	U	N	P
7440-22-4	Silver	0.96	U		P
7440-23-5	Sodium	1240			P
7440-28-0	Thallium	2.4	U		P
7440-62-2	Vanadium	15.5		N	P
7440-66-6	Zinc	37.1		N	P

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3BC7

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30S4

Matrix: SOIL Lab Sample ID: C4462-15

% Solids: 26.0 Date Received: 11/03/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6090			P
7440-36-0	Antimony	1.9	J	N	P
7440-38-2	Arsenic	9.4			P
7440-39-3	Barium	671		N	P
7440-41-7	Beryllium	0.13	J	N	P
7440-43-9	Cadmium	5.7			P
7440-70-2	Calcium	107000		ED	P
7440-47-3	Chromium	18.1		N	P
7440-48-4	Cobalt	1.3	J	N	P
7440-50-8	Copper	42.3		N	P
7439-89-6	Iron	3030			P
7439-92-1	Lead	18.0		NE	P
7439-95-4	Magnesium	6040			P
7439-96-5	Manganese	1470			P
7440-02-0	Nickel	11.0		N	P
7440-09-7	Potassium	1170		E	P
7782-49-2	Selenium	1.1	J	N	P
7440-22-4	Silver	1.1			P
7440-23-5	Sodium	4920			P
7440-28-0	Thallium	2.0	U		P
7440-62-2	Vanadium	25.3		N	P
7440-66-6	Zinc	304		N	P

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3BC8

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30S4

Matrix: SOIL Lab Sample ID: C4462-16

% Solids: 69.6 Date Received: 11/03/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3720			P
7440-36-0	Antimony	1.7	J	N	P
7440-38-2	Arsenic	6.4			P
7440-39-3	Barium	383		N	P
7440-41-7	Beryllium	0.47	J	N	P
7440-43-9	Cadmium	3.7			P
7440-70-2	Calcium	211000		ED	P
7440-47-3	Chromium	45.1		N	P
7440-48-4	Cobalt	5.4		N	P
7440-50-8	Copper	90.1		N	P
7439-89-6	Iron	32900		D	P
7439-92-1	Lead	61.7		NE	P
7439-95-4	Magnesium	6830			P
7439-96-5	Manganese	536			P
7440-02-0	Nickel	80.3		N	P
7440-09-7	Potassium	467	J	E	P
7782-49-2	Selenium	3.7	U	N	P
7440-22-4	Silver	1.1	U		P
7440-23-5	Sodium	4500			P
7440-28-0	Thallium	2.7	U		P
7440-62-2	Vanadium	6.7		N	P
7440-66-6	Zinc	425		N	P

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3BC9

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30S4

Matrix: SOIL Lab Sample ID: C4462-17

% Solids: 27.0 Date Received: 11/03/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7630			P
7440-36-0	Antimony	2.6	J	N	P
7440-38-2	Arsenic	12.3			P
7440-39-3	Barium	748		N	P
7440-41-7	Beryllium	0.16	J	N	P
7440-43-9	Cadmium	7.0			P
7440-70-2	Calcium	116000		ED	P
7440-47-3	Chromium	20.1		N	P
7440-48-4	Cobalt	1.6	J	N	P
7440-50-8	Copper	47.4		N	P
7439-89-6	Iron	3400			P
7439-92-1	Lead	20.1		NE	P
7439-95-4	Magnesium	7380			P
7439-96-5	Manganese	1580			P
7440-02-0	Nickel	11.6		N	P
7440-09-7	Potassium	1410		E	P
7782-49-2	Selenium	1.2	J	N	P
7440-22-4	Silver	1.1			P
7440-23-5	Sodium	5880			P
7440-28-0	Thallium	2.2	U		P
7440-62-2	Vanadium	32.8		N	P
7440-66-6	Zinc	357		N	P

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

Metals

1A-IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MH3BD0

Lab Name: Chemtech Consulting Group Contract: EPW09038

Lab Code: CHEM Case No.: 41926 Mod. Ref. No.: SDG No.: MH30S4

Matrix: SOIL Lab Sample ID: C4462-18

% Solids: 57.2 Date Received: 11/03/2011

Concentration Units (ug/L, ug, or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3270			P
7440-36-0	Antimony	0.40	J	N	P
7440-38-2	Arsenic	3.2			P
7440-39-3	Barium	654		N	P
7440-41-7	Beryllium	0.09	J	N	P
7440-43-9	Cadmium	2.1			P
7440-70-2	Calcium	182000		ED	P
7440-47-3	Chromium	29.7		N	P
7440-48-4	Cobalt	1.3	J	N	P
7440-50-8	Copper	58.3		N	P
7439-89-6	Iron	4050			P
7439-92-1	Lead	14.6		NE	P
7439-95-4	Magnesium	4320			P
7439-96-5	Manganese	1560			P
7440-02-0	Nickel	16.3		N	P
7440-09-7	Potassium	510	J	E	P
7782-49-2	Selenium	0.82	J	N	P
7440-22-4	Silver	1.4			P
7440-23-5	Sodium	3810			P
7440-28-0	Thallium	3.5	U		P
7440-62-2	Vanadium	6.7	J	N	P
7440-66-6	Zinc	248		N	P

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0

TABLE I. TEM WATER SAMPLE ANALYTICAL RESULTS

RES Job Number: **RES 223677-1**
Client: **URS Operating Services**
Client Project Number/P.O: **None Given**
Client Project Description: **36549107**
Date Samples Received: **November 4, 2011**
Analysis Type: **TEM, Waste Water**
Turnaround: **3-5 Day**
Date Samples Analyzed: **November 11, 2011**

Client ID Number	Lab ID Number	Aliquot Deposited on Filter (ml)	Dilution Factor **	TOTAL Number of Asbestos Structures Detected	Greater than 10 Micron Length Asbestos Structures Detected	Analytical Sensitivity (million struct/liter)	TOTAL Asbestos Concentration (million struct/liter)	Greater than 10 Micron Length Asbestos Concentration (million struct/liter)
SSGW10	EM 819302	0.1	1	ND	ND	34.60	BAS	BAS
SSGW12	EM 819303	0.1	1	ND	ND	34.60	BAS	BAS

NA = Not Analyzed
ND = None Detected
BAS = Below Anaytical Sensitivity

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0

TDH Licensed Laboratory # 30-0136

TABLE PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME

RES Job Number: **RES 223677-1**
Client: **URS Operating Services**
Client Project Number / P.O.: **36549107**
Client Project Description: **None Given**
Date Samples Received: **November 4, 2011**
Analysis Type: **PLM, Short Report**
Turnaround: **3-5 Day**
Date Analyzed: **November 4, 2011**

Client Sample Number	Lab ID Number	LAYER	Physical Description	Sub Part (%)	Asbestos Content: Mineral	Asbestos Content: Visual Estimate (%)	Non Asbestos Fibrous Components (%)	Non-Fibrous Components (%)
SSSO0202	EM 819304	A	Brown soil	100		**ND**	TR	100
SSSO0302	EM 819305	A	Brown soil	100		**ND**	TR	100
SSSO0102	EM 819306	A	Brown soil	100		**ND**	TR	100

ND=None Detected
TR=Trace, <1% Visual Estimate
Trem-Act=Tremolite-Actinolite
Note: Further analysis by TEM is recommended for organically bound material (i.e. floor tile) if PLM results are≤1%.

USEPA | **CHAIN OF CUSTODY RECORD** | **No: 8-102611-101158-0001**

DateShipped: 10/26/2011 | Smurfit Stone | Cooler #:

CarrierName: FedEx | Contact Name: | Lab: ChemTech Consulting Group

AirbillNo: | Contact Phone: | Lab Phone: 908-789-8900

Lab #	Location	CLP Sample #	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	SSSE01	MH30S8	Metals	Sediment	10/24/2011	14:00	1	Poly		
	SSSE02	MH30S9	Metals	Sediment	10/24/2011	15:25	1	Poly		
	SSSE03	MH30T0	Metals	Sediment	10/24/2011	16:11	1	Poly		
	SSSE04	MH30T1	Metals	Sediment	10/24/2011	15:22	1	Poly		
	SSSE05	MH30T2	Metals	Sediment	10/24/2011	16:45	1	Poly		
	SSSE06	MH30T3	Metals	Sediment	10/24/2011	17:30	1	Poly		
	SSSE07	MH30T4	Metals	Sediment	10/24/2011	17:45	1	Poly		
	SSSE08	MH30T5	Metals	Sediment	10/25/2011	10:15	1	Poly		
	SSSE09	MH30T6	Metals	Sediment	10/25/2011	11:35	1	Poly		
	SSSE10	MH30T7	Metals	Sediment	10/25/2011	12:40	1	Poly		
	SSSW01	MH30T9	Metals	Surface Water	10/24/2011	14:00	2	Poly	HNO3 pH<2	
	SSSW02	MH30W0	Metals	Surface Water	10/24/2011	15:25	2	Poly	HNO3 pH<2	
	SSSW03	MH30W1	Metals	Surface Water	10/24/2011	16:11	2	Poly	HNO3 pH<2	
	SSSW04	MH30W2	Metals	Surface Water	10/24/2011	15:22	2	Poly	HNO3 pH<2	
	SSSW05	MH30W3	Metals	Surface Water	10/24/2011	16:45	2	Poly	HNO3 pH<2	

Special Instructions: Results to miller.jeff@urs.com, amy.k.gray@urs.com

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time		Items/Reason	Relinquished By	Date	Received by	Date	Time

USEPA | **CHAIN OF CUSTODY RECORD** | **No: 8-102611-101158-0001**

DateShipped: 10/26/2011 | Smurfit Stone | Cooler #:

CarrierName: FedEx | Contact Name: | Lab: ChemTech Consulting Group

AirbillNo: | Contact Phone: | Lab Phone: 908-789-8900

Lab #	Location	CLP Sample #	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	SSSW06	MH30W4	Metals	Surface Water	10/24/2011	17:30	2	Poly	HNO3 pH<2	
	SSSW07	MH30W5	Metals	Surface Water	10/24/2011	17:45	2	Poly	HNO3 pH<2	
	SSSW08	MH30W6	Metals	Surface Water	10/25/2011	10:15	2	Poly	HNO3 pH<2	
	SSSW09	MH30W7	Metals	Surface Water	10/25/2011	11:35	2	Poly	HNO3 pH<2	
	SSSW10	MH30W8	Metals	Surface Water	10/25/2011	12:40	2	Poly	HNO3 pH<2	
	SSSW01	MH30Z9	Dissolved Metals	Filtered Water	10/24/2011	14:00	2	Poly	HNO3 pH<2	
	SSSW02	MH3100	Dissolved Metals	Filtered Water	10/24/2011	15:25	2	Poly	HNO3 pH<2	
	SSSW03	MH3101	Dissolved Metals	Filtered Water	10/24/2011	16:11	2	Poly	HNO3 pH<2	
	SSSW04	MH3102	Dissolved Metals	Filtered Water	10/24/2011	15:22	2	Poly	HNO3 pH<2	
	SSSW05	MH3103	Dissolved Metals	Filtered Water	10/24/2011	16:45	2	Poly	HNO3 pH<2	
	SSSW06	MH3104	Dissolved Metals	Filtered Water	10/24/2011	17:30	2	Poly	HNO3 pH<2	

Special Instructions: Results to miller.jeff@urs.com, amy.k.gray@urs.com	**SAMPLES TRANSFERRED FROM**
	CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time		Items/Reason	Relinquished By	Date	Received by	Date	Time

USEPA

DateShipped: 10/26/2011

CarrierName: FedEx

AirbillNo:

CHAIN OF CUSTODY RECORD

Smurfit Stone

Contact Name:

Contact Phone:

No: 8-102611-101158-0001

Cooler #:

Lab: ChemTech Consulting Group

Lab Phone: 908-789-8900

Lab #	Location	CLP Sample #	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	SSSW07	MH3105	Dissolved Metals	Filtered Water	10/24/2011	17:45	2	Poly	HNO3 pH<2	
	SSSW08	MH3106	Dissolved Metals	Filtered Water	10/25/2011	10:15	2	Poly	HNO3 pH<2	
	SSSW09	MH3107	Dissolved Metals	Filtered Water	10/25/2011	11:35	2	Poly	HNO3 pH<2	
	SSSW10	MH3108	Dissolved Metals	Filtered Water	10/25/2011	12:40	2	Poly	HNO3 pH<2	Y

Special Instructions: Results to miller.jeff@urs.com, amy.k.gray@urs.com

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time		Items/Reason	Relinquished By	Date	Received by	Date	Time

USEPA

DateShipped: 10/26/2011

CarrierName: FedEx

AirbillNo:

CHAIN OF CUSTODY RECORD

Smurfit Stone

Contact Name: Jeff Miller

Contact Phone: 720-219-7891

No: 8-102611-105817-0002

Cooler #:

Lab: Spectrum Analytical

Lab Phone: 401-732-3400

Lab #	Location	CLP Sample #	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	SSSE01	H30S8	Semivolatiles (SVOAs)/PCBs	Sediment	10/24/2011	14:00	1	8 oz glass		
	SSSE02	H30S9	Semivolatiles (SVOAs)/PCBs	Sediment	10/24/2011	15:25	1	8 oz glass		
	SSSE03	H30T0	Semivolatiles (SVOAs)/PCBs	Sediment	10/24/2011	16:11	1	8 oz glass		
	SSSE04	H30T1	Semivolatiles (SVOAs)/PCBs	Sediment	10/24/2011	15:22	1	8 oz glass		
	SSSE05	H30T2	Semivolatiles (SVOAs)/PCBs	Sediment	10/24/2011	16:45	1	8 oz glass		
	SSSE06	H30T3	Semivolatiles (SVOAs)/PCBs	Sediment	10/24/2011	17:30	1	8 oz glass		
	SSSE07	H30T4	Semivolatiles (SVOAs)/PCBs	Sediment	10/24/2011	17:45	1	8 oz glass		
	SSSE08	H30T5	Semivolatiles (SVOAs)/PCBs	Sediment	10/25/2011	10:15	1	8 oz glass		
	SSSE09	H30T6	Semivolatiles (SVOAs)/PCBs	Sediment	10/25/2011	11:35	1	8 oz glass		
	SSSE10	H30T7	Semivolatiles (SVOAs)/PCBs	Sediment	10/25/2011	12:40	1	8 oz glass		
	SSSW01	H30T9	Semivolatiles (SVOAs)	Surface Water	10/24/2011	14:00	2	1 liter amber		
	SSSW01	H30T9	Aroclors	Surface Water	10/24/2011	14:00	2	1 liter amber		
	SSSW02	H30W0	Semivolatiles (SVOAs)	Surface Water	10/24/2011	15:25	2	1 liter amber		
	SSSW02	H30W0	Aroclors	Surface Water	10/24/2011	15:25	2	1 liter amber		
	SSSW03	H30W1	Semivolatiles (SVOAs)	Surface Water	10/24/2011	16:11	2	1 liter amber		

Special Instructions: Results to miller.jeff@urs.com, amy.k.gray@urs.com

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time		Items/Reason	Relinquished By	Date	Received by	Date	Time

USEPA
DateShipped: 10/26/2011
CarrierName: FedEx
AirbillNo:

CHAIN OF CUSTODY RECORD
Smurfit Stone
Contact Name: Jeff Miller
Contact Phone: 720-219-7891

No: 8-102611-105817-0002
Cooler #:
Lab: Spectrum Analytical
Lab Phone: 401-732-3400

Lab #	Location	CLP Sample #	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	SSSW03	H30W1	Aroclors	Surface Water	10/24/2011	16:11	2	1 liter amber		
	SSSW04	H30W2	Semivolatiles (SVOAs)	Surface Water	10/24/2011	15:22	2	1 liter amber		
	SSSW04	H30W2	Aroclors	Surface Water	10/24/2011	15:22	2	1 liter amber		
	SSSW05	H30W3	Semivolatiles (SVOAs)	Surface Water	10/24/2011	16:45	2	1 liter amber		
	SSSW05	H30W3	Aroclors	Surface Water	10/24/2011	16:45	2	1 liter amber		
	SSSW06	H30W4	Semivolatiles (SVOAs)	Surface Water	10/24/2011	17:30	2	1 liter amber		
	SSSW06	H30W4	Aroclors	Surface Water	10/24/2011	17:30	2	1 liter amber		
	SSSW07	H30W5	Semivolatiles (SVOAs)	Surface Water	10/24/2011	17:45	2	1 liter amber		
	SSSW07	H30W5	Aroclors	Surface Water	10/24/2011	17:45	2	1 liter amber		
	SSSW08	H30W6	Semivolatiles (SVOAs)	Surface Water	10/25/2011	10:15	2	1 liter amber		
	SSSW08	H30W6	Aroclors	Surface Water	10/25/2011	10:15	2	1 liter amber		

Special Instructions: Results to miller.jeff@urs.com, amy.k.gray@urs.com

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time		Items/Reason	Relinquished By	Date	Received by	Date	Time

USEPA
DateShipped: 10/26/2011
CarrierName: FedEx
AirbillNo:

CHAIN OF CUSTODY RECORD
Smurfit Stone
Contact Name: Jeff Miller
Contact Phone: 720-219-7891

No: 8-102611-105817-0002
Cooler #:
Lab: Spectrum Analytical
Lab Phone: 401-732-3400

Lab #	Location	CLP Sample #	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	SSSW09	H30W7	Semivolatiles (SVOAs)	Surface Water	10/25/2011	11:35	2	1 liter amber		
	SSSW09	H30W7	Aroclors	Surface Water	10/25/2011	11:35	2	1 liter amber		
	SSSW10	H30W8	Semivolatiles (SVOAs)	Surface Water	10/25/2011	12:40	2	1 liter amber		
	SSSW10	H30W8	Aroclors	Surface Water	10/25/2011	12:40	2	1 liter amber		

Special Instructions: Results to miller.jeff@urs.com, amy.k.gray@urs.com

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time		Items/Reason	Relinquished By	Date	Received by	Date	Time

USEPA
DateShipped: 10/27/2011
CarrierName: FedEx
AirbillNo: 876828740622

CHAIN OF CUSTODY RECORD
Smurfit Stone
Contact Name: Jeff Miller
Contact Phone: 720-219-7891

No: 8-102711-105926-0003
Cooler #:
Lab: Spectrum Analytical
Lab Phone: 401-732-3400

Lab #	Location	CLP Sample #	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	SSSO0102	H30Q0	Volatiles (VOAs)	Soil	10/26/2011	09:05	2	4 oz glass		
	SSSO0102	H30Q0	Semivolatiles (SVOAs)/PCBs	Soil	10/26/2011	09:05	1	8 oz glass		
	SSSO0202	H30Q1	Volatiles (VOAs)	Soil	10/25/2011	14:47	2	4 oz glass		
	SSSO0202	H30Q1	Semivolatiles (SVOAs)/PCBs	Soil	10/25/2011	14:47	1	8 oz glass		
	SSSO0302	H30Q2	Volatiles (VOAs)	Soil	10/25/2011	15:15	2	4 oz glass		
	SSSO0302	H30Q2	Semivolatiles (SVOAs)/PCBs	Soil	10/25/2011	15:15	1	8 oz glass		
	SSSO0402	H30Q3	Volatiles (VOAs)	Soil	10/25/2011	15:40	2	4 oz glass		
	SSSO0402	H30Q3	Semivolatiles (SVOAs)/PCBs	Soil	10/25/2011	15:40	1	8 oz glass		
	SSSO0502	H30Q4	Volatiles (VOAs)	Soil	10/25/2011	17:10	2	4 oz glass		
	SSSO0502	H30Q4	Semivolatiles (SVOAs)/PCBs	Soil	10/25/2011	17:10	1	8 oz glass		
	SSSO0602	H30Q6	Volatiles (VOAs)	Soil	10/25/2011	16:50	2	4 oz glass		
	SSSO0602	H30Q6	Semivolatiles (SVOAs)/PCBs	Soil	10/25/2011	16:50	1	8 oz glass		
	SSSO0702	H30Q8	Volatiles (VOAs)	Soil	10/26/2011	13:00	2	4 oz glass		
	SSSO0702	H30Q8	Semivolatiles (SVOAs)/PCBs	Soil	10/26/2011	13:00	1	8 oz glass		
	SSSO0716	H30Q9	Volatiles (VOAs)	Soil	10/26/2011	13:45	2	4 oz glass		
	SSSO0716	H30Q9	Semivolatiles (SVOAs)/PCBs	Soil	10/26/2011	13:45	1	8 oz glass		
	SSSO0802	H30R0	Volatiles (VOAs)	Soil	10/26/2011	17:05	2	4 oz glass		
	SSSO0802	H30R0	Semivolatiles (SVOAs)/PCBs	Soil	10/26/2011	17:05	1	8 oz glass		
	SSSO0816	H30R1	Volatiles (VOAs)	Soil	10/26/2011	16:30	2	4 oz glass		

Special Instructions: Results to jeff.miller@urscorp.com, amy.k.gray@urscorp.com

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time		Items/Reason	Relinquished By	Date	Received by	Date	Time

USEPA
DateShipped: 10/27/2011
CarrierName: FedEx
AirbillNo: 876828740622

CHAIN OF CUSTODY RECORD
Smurfit Stone
Contact Name: Jeff Miller
Contact Phone: 720-219-7891

No: 8-102711-105926-0003
Cooler #:
Lab: Spectrum Analytical
Lab Phone: 401-732-3400

Lab #	Location	CLP Sample #	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	SSSO0816	H30R1	Semivolatiles (SVOAs)/PCBs	Soil	10/26/2011	16:30	1	8 oz glass		
	SSSO1502	H30S4	Volatiles (VOAs)	Soil	10/25/2011	09:55	2	4 oz glass		
	SSSO1502	H30S4	Semivolatiles (SVOAs)/PCBs	Soil	10/25/2011	09:55	1	8 oz glass		
	SSSO1602	H30S5	Volatiles (VOAs)	Soil	10/25/2011	10:36	2	4 oz glass		
	SSSO1602	H30S5	Semivolatiles (SVOAs)/PCBs	Soil	10/25/2011	10:36	1	8 oz glass		
	SSSW99A	H30S7	Volatiles (VOAs)	Surface Water	10/26/2011	10:30	3	40 ml VOA	HCl	
	SSSE01	H30S8	Volatiles (VOAs)	Sediment	10/24/2011	14:00	2	4 oz glass		
	SSSE02	H30S9	Volatiles (VOAs)	Sediment	10/24/2011	15:25	2	4 oz glass		
	SSSE03	H30T0	Volatiles (VOAs)	Sediment	10/24/2011	16:11	2	4 oz glass		
	SSSE04	H30T1	Volatiles (VOAs)	Sediment	10/24/2011	15:22	2	4 oz glass		
	SSSE05	H30T2	Volatiles (VOAs)	Sediment	10/24/2011	16:45	2	4 oz glass		
	SSSE06	H30T3	Volatiles (VOAs)	Sediment	10/24/2011	17:30	2	4 oz glass		
	SSSE07	H30T4	Volatiles (VOAs)	Sediment	10/24/2011	17:45	2	4 oz glass		
	SSSE08	H30T5	Volatiles (VOAs)	Sediment	10/25/2011	10:15	2	4 oz glass		
	SSSE09	H30T6	Volatiles (VOAs)	Sediment	10/25/2011	11:35	2	4 oz glass		
	SSSE10	H30T7	Volatiles (VOAs)	Sediment	10/25/2011	12:40	2	4 oz glass		
	SSSW01	H30T9	Volatiles (VOAs)	Surface Water	10/24/2011	14:00	3	40 ml VOA	HCl	

Special Instructions: Results to jeff.miller@urscorp.com, amy.k.gray@urscorp.com

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time		Items/Reason	Relinquished By	Date	Received by	Date	Time

USEPA
DateShipped: 10/27/2011
CarrierName: FedEx
AirbillNo: 876828740622

CHAIN OF CUSTODY RECORD
Smurfit Stone
Contact Name: Jeff Miller
Contact Phone: 720-219-7891

No: 8-102711-105926-0003
Cooler #:
Lab: Spectrum Analytical
Lab Phone: 401-732-3400

Lab #	Location	CLP Sample #	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	SSSW02	H30W0	Volatiles (VOAs)	Surface Water	10/24/2011	15:25	3	40 ml VOA	HCl	
	SSSW03	H30W1	Volatiles (VOAs)	Surface Water	10/24/2011	16:11	3	40 ml VOA	HCl	
	SSSW04	H30W2	Volatiles (VOAs)	Surface Water	10/24/2011	15:22	3	40 ml VOA	HCl	
	SSSW05	H30W3	Volatiles (VOAs)	Surface Water	10/24/2011	16:45	3	40 ml VOA	HCl	
	SSSW06	H30W4	Volatiles (VOAs)	Surface Water	10/24/2011	17:30	3	40 ml VOA	HCl	
	SSSW07	H30W5	Volatiles (VOAs)	Surface Water	10/24/2011	17:45	3	40 ml VOA	HCl	
	SSSW08	H30W6	Volatiles (VOAs)	Surface Water	10/25/2011	10:15	3	40 ml VOA	HCl	
	SSSW09	H30W7	Volatiles (VOAs)	Surface Water	10/25/2011	11:35	3	40 ml VOA	HCl	
	SSSW10	H30W8	Volatiles (VOAs)	Surface Water	10/25/2011	12:40	3	40 ml VOA	HCl	
	SSGW01	H30X0	Volatiles (VOAs)	Ground Water	10/26/2011	09:30	3	40 ml VOA	HCl	
	SSGW01	H30X0	Semivolatiles (SVOAs)	Ground Water	10/26/2011	09:30	2	1 liter amber		

Special Instructions: Results to jeff.miller@urscorp.com, amy.k.gray@urscorp.com

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time		Items/Reason	Relinquished By	Date	Received by	Date	Time

USEPA
DateShipped: 10/27/2011
CarrierName: FedEx
AirbillNo: 876828740622

CHAIN OF CUSTODY RECORD
Smurfit Stone
Contact Name: Jeff Miller
Contact Phone: 720-219-7891

No: 8-102711-105926-0003
Cooler #:
Lab: Spectrum Analytical
Lab Phone: 401-732-3400

Lab #	Location	CLP Sample #	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	SSGW01	H30X0	Aroclors	Ground Water	10/26/2011	09:30	2	1 liter amber		
	SSGW02	H30X1	Volatiles (VOAs)	Ground Water	10/26/2011	10:30	3	40 ml VOA	HCl	
	SSGW02	H30X1	Semivolatiles (SVOAs)	Ground Water	10/26/2011	10:30	2	1 liter amber		
	SSGW02	H30X1	Aroclors	Ground Water	10/26/2011	10:30	2	1 liter amber		
	SSGW13	H30Y2	Volatiles (VOAs)	Ground Water	10/26/2011	10:55	3	40 ml VOA	HCl	
	SSGW13	H30Y2	Semivolatiles (SVOAs)	Ground Water	10/26/2011	10:55	2	1 liter amber		
	SSGW13	H30Y2	Aroclors	Ground Water	10/26/2011	10:55	2	1 liter amber		
	SSGW14	H30Y3	Volatiles (VOAs)	Ground Water	10/26/2011	12:05	3	40 ml VOA	HCl	
	SSGW14	H30Y3	Semivolatiles (SVOAs)	Ground Water	10/26/2011	12:05	2	1 liter amber		
	SSGW14	H30Y3	Aroclors	Ground Water	10/26/2011	12:05	2	1 liter amber		
	SSGW15	H30Y4	Volatiles (VOAs)	Ground Water	10/26/2011	15:05	3	40 ml VOA	HCl	

Special Instructions: Results to jeff.miller@urscorp.com, amy.k.gray@urscorp.com

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CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time		Items/Reason	Relinquished By	Date	Received by	Date	Time

USEPA
DateShipped: 10/27/2011
CarrierName: FedEx
AirbillNo: 876828740622

CHAIN OF CUSTODY RECORD
Smurfit Stone
Contact Name: Jeff Miller
Contact Phone: 720-219-7891

No: 8-102711-105926-0003
Cooler #:
Lab: Spectrum Analytical
Lab Phone: 401-732-3400

Lab #	Location	CLP Sample #	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	SSGW15	H30Y4	Semivolatiles (SVOAs)	Ground Water	10/26/2011	15:05	2	1 liter amber		
	SSGW15	H30Y4	Aroclors	Ground Water	10/26/2011	15:05	2	1 liter amber		
	SSGW16	H30Y5	Volatiles (VOAs)	Ground Water	10/26/2011	17:05	3	40 ml VOA	HCl	
	SSGW16	H30Y5	Semivolatiles (SVOAs)	Ground Water	10/26/2011	17:05	2	1 liter amber		
	SSGW16	H30Y5	Aroclors	Ground Water	10/26/2011	17:05	2	1 liter amber		
	SSGW17	H30Y6	Volatiles (VOAs)	Ground Water	10/26/2011	18:20	3	40 ml VOA	HCl	
	SSGW17	H30Y6	Semivolatiles (SVOAs)	Ground Water	10/26/2011	18:20	2	1 liter amber		
	SSGW17	H30Y6	Aroclors	Ground Water	10/26/2011	18:20	2	1 liter amber		
	SSGW27	H30Z6	Volatiles (VOAs)	Ground Water	10/25/2011	16:05	3	40 ml VOA	HCl	
	SSGW27	H30Z6	Semivolatiles (SVOAs)	Ground Water	10/25/2011	16:05	2	1 liter amber		
	SSGW27	H30Z6	Aroclors	Ground Water	10/25/2011	16:05	2	1 liter amber		

Special Instructions: Results to jeff.miller@urscorp.com, amy.k.gray@urscorp.com

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time		Items/Reason	Relinquished By	Date	Received by	Date	Time

USEPA
DateShipped: 10/28/2011
CarrierName: FedEx
AirbillNo:

CHAIN OF CUSTODY RECORD
Smurfit Stone
Contact Name: Jeff Miller
Contact Phone: 720-219-7891

No: 8-102711-173437-0005
Cooler #:
Lab: ChemTech Consulting Group
Lab Phone: 908-789-8900

Lab #	Location	CLP Sample #	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	SSSO0102	MH30Q0	Metals	Soil	10/26/2011	09:05	1	Poly		
	SSSO0202	MH30Q1	Metals	Soil	10/25/2011	14:47	1	Poly		
	SSSO0302	MH30Q2	Metals	Soil	10/25/2011	15:15	1	Poly		
	SSSO0402	MH30Q3	Metals	Soil	10/25/2011	15:40	1	Poly		
	SSSO0502	MH30Q4	Metals	Soil	10/25/2011	17:10	1	Poly		
	SSSO0602	MH30Q6	Metals	Soil	10/25/2011	16:50	1	Poly		
	SSSO0702	MH30Q8	Metals	Soil	10/26/2011	13:00	1	Poly		
	SSSO0716	MH30Q9	Metals	Soil	10/26/2011	13:45	1	Poly		
	SSSO0802	MH30R0	Metals	Soil	10/26/2011	17:05	1	Poly		
	SSSO0816	MH30R1	Metals	Soil	10/26/2011	16:30	1	Poly		
	SSSO1502	MH30S4	Metals	Soil	10/25/2011	09:55	1	Poly		
	SSSO1602	MH30S5	Metals	Soil	10/25/2011	10:36	1	Poly		
	SSGW01	MH30X0	Metals	Ground Water	10/26/2011	09:30	2	Poly	HNO3 pH<2	
	SSGW02	MH30X1	Metals	Ground Water	10/26/2011	10:30	2	Poly	HNO3 pH<2	
	SSGW13	MH30Y2	Metals	Ground Water	10/26/2011	10:55	2	Poly	HNO3 pH<2	
	SSGW14	MH30Y3	Metals	Ground Water	10/26/2011	12:05	2	Poly	HNO3 pH<2	

Special Instructions: Results to jeff.miller@urs.com, amy.k.gray@urs.com

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time		Items/Reason	Relinquished By	Date	Received by	Date	Time

USEPA
DateShipped: 10/28/2011
CarrierName: FedEx
AirbillNo:

CHAIN OF CUSTODY RECORD
Smurfit Stone
Contact Name: Jeff Miller
Contact Phone: 720-219-7891

No: 8-102711-173437-0005
Cooler #:
Lab: ChemTech Consulting Group
Lab Phone: 908-789-8900

Lab #	Location	CLP Sample #	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	SSGW15	MH30Y4	Metals	Ground Water	10/26/2011	15:05	2	Poly	HNO3 pH<2	
	SSGW16	MH30Y5	Metals	Ground Water	10/26/2011	17:05	2	Poly	HNO3 pH<2	
	SSGW17	MH30Y6	Metals	Ground Water	10/26/2011	18:20	2	Poly	HNO3 pH<2	
	SSGW27	MH30Z6	Metals	Ground Water	10/25/2011	16:05	2	Poly	HNO3 pH<2	
	SSGW01	MH3109	Dissolved Metals	Filtered Water	10/26/2011	09:30	2	Poly	HNO3 pH<2	
	SSGW02	MH3110	Dissolved Metals	Filtered Water	10/26/2011	10:30	2	Poly	HNO3 pH<2	
	SSGW13	MH3121	Dissolved Metals	Filtered Water	10/26/2011	10:55	2	Poly	HNO3 pH<2	
	SSGW14	MH3122	Dissolved Metals	Filtered Water	10/26/2011	12:05	2	Poly	HNO3 pH<2	
	SSGW15	MH3123	Dissolved Metals	Filtered Water	10/26/2011	15:05	2	Poly	HNO3 pH<2	
	SSGW16	MH3124	Dissolved Metals	Filtered Water	10/26/2011	17:05	2	Poly	HNO3 pH<2	
	SSGW17	MH3125	Dissolved Metals	Filtered Water	10/26/2011	18:20	2	Poly	HNO3 pH<2	

Special Instructions: Results to jeff.miller@urs.com, amy.k.gray@urs.com

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time		Items/Reason	Relinquished By	Date	Received by	Date	Time

USEPA

DateShipped: 10/28/2011

CarrierName: FedEx

AirbillNo:

CHAIN OF CUSTODY RECORD

Smurfit Stone

Contact Name: Jeff Miller

Contact Phone: 720-219-7891

No: 8-102711-173437-0005

Cooler #:

Lab: ChemTech Consulting Group

Lab Phone: 908-789-8900

Lab #	Location	CLP Sample #	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	SSGW27	MH3135	Dissolved Metals	Filtered Water	10/25/2011	16:05	2	Poly	HNO3 pH<2	

Special Instructions: Results to jeff.miller@urs.com, amy.k.gray@urs.com

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time		Items/Reason	Relinquished By	Date	Received by	Date	Time

USEPA

DateShipped: 10/28/2011

CarrierName: FedEx

AirbillNo:

CHAIN OF CUSTODY RECORD

Smurfit Stone

Contact Name: Jeff Miller

Contact Phone: 720-219-7891

No: 8-102811-114448-0006

Cooler #:

Lab: Spectrum Analytical

Lab Phone: 401-732-3400

Lab #	Location	CLP Sample #	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	SSSO0514	H30Q5	Semivolatiles (SVOAs)/PCBs	Soil	10/27/2011	10:10	1	8 oz glass		
	SSSO0612	H30Q7	Semivolatiles (SVOAs)/PCBs	Soil	10/27/2011	11:10	1	8 oz glass		
	SSSO0902	H30R2	Semivolatiles (SVOAs)/PCBs	Soil	10/27/2011	14:10	1	8 oz glass		
	SSSO0916	H30R3	Semivolatiles (SVOAs)/PCBs	Soil	10/27/2011	13:50	1	8 oz glass		
	SSSO1002	H30R4	Semivolatiles (SVOAs)/PCBs	Soil	10/27/2011	17:45	1	8 oz glass		
	SSSO1102	H30R6	Semivolatiles (SVOAs)/PCBs	Soil	10/27/2011	15:40	1	8 oz glass		
	SSSO1110	H30R7	Semivolatiles (SVOAs)/PCBs	Soil	10/27/2011	16:00	1	8 oz glass		
	SSSO1202	H30R8	Semivolatiles (SVOAs)/PCBs	Soil	10/27/2011	17:20	1	8 oz glass		
	SSGW04	H30X3	Semivolatiles (SVOAs)	Ground Water	10/27/2011	14:05	2	1 liter amber		
	SSGW04	H30X3	Aroclors	Ground Water	10/27/2011	14:05	2	1 liter amber		
	SSGW05	H30X4	Semivolatiles (SVOAs)	Ground Water	10/27/2011	17:25	2	1 liter amber		
	SSGW05	H30X4	Aroclors	Ground Water	10/27/2011	17:25	2	1 liter amber		
	SSGW18	H30Y7	Semivolatiles (SVOAs)	Ground Water	10/27/2011	10:23	2	1 liter amber		
	SSGW18	H30Y7	Aroclors	Ground Water	10/27/2011	10:23	2	1 liter amber		

Special Instructions: Results to jeff.miller@urs.com, amy.k.gray@urs.com

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time		Items/Reason	Relinquished By	Date	Received by	Date	Time

USEPA

DateShipped: 11/1/2011

CarrierName: FedEx

AirbillNo:

CHAIN OF CUSTODY RECORD

Smurfit Stone

Contact Name: Jeff Miller

Contact Phone: 720-810-0792

No: 8-110111-144130-0008

Cooler #:

Lab: ChemTech Consulting Group

Lab Phone: 908-789-8900

Lab #	Location	CLP Sample #	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	SSSO0514	MH30Q5	Metals	Soil	10/27/2011	10:10	1	Poly		
	SSSO0612	MH30Q7	Metals	Soil	10/27/2011	11:10	1	Poly		
	SSSO0902	MH30R2	Metals	Soil	10/27/2011	14:10	1	Poly		
	SSSO0916	MH30R3	Metals	Soil	10/27/2011	13:50	1	Poly		
	SSSO1002	MH30R4	Metals	Soil	10/27/2011	17:45	1	Poly		
	SSSO1102	MH30R6	Metals	Soil	10/27/2011	15:40	1	Poly		
	SSSO1110	MH30R7	Metals	Soil	10/27/2011	16:00	1	Poly		
	SSSO1202	MH30R8	Metals	Soil	10/27/2011	17:20	1	Poly		
	SSSO1302	MH30S0	Metals	Soil	10/28/2011	16:40	3	Poly		Y
	SSSO1306	MH30S1	Metals	Soil	10/28/2011	10:45	1	Poly		
	SSSO1402	MH30S2	Metals	Soil	10/28/2011	13:30	1	Poly		Y
	SSSO1702	MH30S3	Metals	Soil	10/28/2011	18:25	1	Poly		
	SSSO8902	MH30S6	Metals	Soil	10/28/2011	13:30	1	Poly		
	SSSO9902	MH30T8	Metals	Soil	10/28/2011	16:40	1	Poly		
	SSSW89	MH30W9	Metals	Surface Water	10/29/2011	9:00	2	Poly	HNO3 pH<2	
	SSGW03	MH30X2	Metals	Ground Water	10/28/2011	9:10	2	Poly	HNO3 pH<2	
	SSGW04	MH30X3	Metals	Ground Water	10/27/2011	14:05	2	Poly	HNO3 pH<2	

Special Instructions: Results to jeff.miller@urs.com, amy.k.gray@urs.com

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time		Items/Reason	Relinquished By	Date	Received by	Date	Time

USEPA
DateShipped: 11/1/2011
CarrierName: FedEx
AirbillNo:

CHAIN OF CUSTODY RECORD
Smurfit Stone
Contact Name: Jeff Miller
Contact Phone: 720-810-0792

No: 8-110111-144130-0008
Cooler #:
Lab: ChemTech Consulting Group
Lab Phone: 908-789-8900

Lab #	Location	CLP Sample #	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	SSGW05	MH30X4	Metals	Ground Water	10/27/2011	17:25	2	Poly	HNO3 pH<2	
	SSGW07	MH30X6	Metals	Ground Water	10/28/2011	11:37	2	Poly	HNO3 pH<2	
	SSGW08	MH30X7	Metals	Ground Water	10/28/2011	18:50	2	Poly	HNO3 pH<2	
	SSGW10	MH30X9	Metals	Ground Water	10/28/2011	14:10	6	Poly	HNO3 pH<2	Y
	SSGW11	MH30Y0	Metals	Ground Water	10/28/2011	17:20	2	Poly	HNO3 pH<2	
	SSGW12	MH30Y1	Metals	Ground Water	10/29/2011	10:20	2	Poly	HNO3 pH<2	
	SSGW18	MH30Y7	Metals	Ground Water	10/27/2011	10:23	2	Poly	HNO3 pH<2	
	SSGW23	MH30Z2	Metals	Ground Water	10/29/2011	12:45	6	Poly	HNO3 pH<2	Y
	SSGW24	MH30Z3	Metals	Ground Water	10/29/2011	13:50	2	Poly	HNO3 pH<2	
	SSGW25	MH30Z4	Metals	Ground Water	10/29/2011	13:20	2	Poly	HNO3 pH<2	
	SSGW26	MH30Z5	Metals	Ground Water	10/29/2011	11:50	2	Poly	HNO3 pH<2	

Special Instructions: Results to jeff.miller@urs.com, amy.k.gray@urs.com

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time		Items/Reason	Relinquished By	Date	Received by	Date	Time

USEPA
DateShipped: 11/1/2011
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CHAIN OF CUSTODY RECORD
Smurfit Stone
Contact Name: Jeff Miller
Contact Phone: 720-810-0792

No: 8-110111-144130-0008
Cooler #:
Lab: ChemTech Consulting Group
Lab Phone: 908-789-8900

Lab #	Location	CLP Sample #	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	SSGW89	MH30Z7	Metals	Ground Water	10/29/2011	14:10	2	Poly	HNO3 pH<2	
	SSGW99	MH30Z8	Metals	Ground Water	10/29/2011	11:55	2	Poly	HNO3 pH<2	
	SSGW03	MH3111	Dissolved Metals	Filtered Water	10/28/2011	9:10	2	Poly	HNO3 pH<2	
	SSGW04	MH3112	Dissolved Metals	Filtered Water	10/27/2011	14:05	2	Poly	HNO3 pH<2	
	SSGW05	MH3113	Dissolved Metals	Filtered Water	10/27/2011	17:25	2	Poly	HNO3 pH<2	
	SSGW07	MH3115	Dissolved Metals	Filtered Water	10/28/2011	11:37	2	Poly	HNO3 pH<2	
	SSGW08	MH3116	Dissolved Metals	Filtered Water	10/28/2011	18:50	2	Poly	HNO3 pH<2	
	SSGW10	MH3118	Dissolved Metals	Filtered Water	10/28/2011	14:10	6	Poly	HNO3 pH<2	Y
	SSGW11	MH3119	Dissolved Metals	Filtered Water	10/28/2011	17:20	2	Poly	HNO3 pH<2	
	SSGW12	MH3120	Dissolved Metals	Filtered Water	10/29/2011	10:20	2	Poly	HNO3 pH<2	
	SSGW18	MH3126	Dissolved Metals	Filtered Water	10/27/2011	10:23	2	Poly	HNO3 pH<2	

Special Instructions: Results to jeff.miller@urs.com, amy.k.gray@urs.com

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time		Items/Reason	Relinquished By	Date	Received by	Date	Time

USEPA
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CHAIN OF CUSTODY RECORD
Smurfit Stone
Contact Name: Jeff Miller
Contact Phone: 720-810-0792

No: 8-110111-144130-0008
Cooler #:
Lab: ChemTech Consulting Group
Lab Phone: 908-789-8900

Lab #	Location	CLP Sample #	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	SSGW23	MH3131	Dissolved Metals	Filtered Water	10/29/2011	12:45	6	Poly	HNO3 pH<2	Y
	SSGW24	MH3132	Dissolved Metals	Filtered Water	10/29/2011	13:50	2	Poly	HNO3 pH<2	
	SSGW25	MH3133	Dissolved Metals	Filtered Water	10/29/2011	13:20	2	Poly	HNO3 pH<2	
	SSGW26	MH3134	Dissolved Metals	Filtered Water	10/29/2011	11:50	2	Poly	HNO3 pH<2	
	SSGW89	MH3136	Dissolved Metals	Filtered Water	10/29/2011	14:10	2	Poly	HNO3 pH<2	
	SSGW99	MH3137	Dissolved Metals	Filtered Water	10/29/2011	11:55	2	Poly	HNO3 pH<2	
	SSSW89	MH3138	Dissolved Metals	Filtered Water	10/29/2011	9:00	2	Poly	HNO3 pH<2	

Special Instructions: Results to jeff.miller@urs.com, amy.k.gray@urs.com

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USEPA

DateShipped: 11/1/2011

CarrierName: FedEx

AirbillNo:

CHAIN OF CUSTODY RECORD

Smurfit Stone

Contact Name: Jeff Miller

Contact Phone: 720-810-7891

No: 8-110111-145735-0009

Cooler #:

Lab: Spectrum Analytical

Lab Phone: 401-732-3400

Lab #	Location	CLP Sample #	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	SSSO0514	H30Q5	Volatiles (VOAs)	Soil	10/27/2011	10:10	2	4 oz glass		
	SSSO0612	H30Q7	Volatiles (VOAs)	Soil	10/27/2011	11:10	2	4 oz glass		
	SSSO0902	H30R2	Volatiles (VOAs)	Soil	10/27/2011	14:10	2	4 oz glass		
	SSSO0916	H30R3	Volatiles (VOAs)	Soil	10/27/2011	13:50	2	4 oz glass		
	SSSO1002	H30R4	Volatiles (VOAs)	Soil	10/27/2011	17:45	2	4 oz glass		
	SSSO1102	H30R6	Volatiles (VOAs)	Soil	10/27/2011	15:40	2	4 oz glass		
	SSSO1110	H30R7	Volatiles (VOAs)	Soil	10/27/2011	16:00	2	4 oz glass		
	SSSO1202	H30R8	Volatiles (VOAs)	Soil	10/27/2011	17:20	2	4 oz glass		
	SSSO1302	H30S0	Volatiles (VOAs)	Soil	10/28/2011	16:40	6	4 oz glass		Y
	SSSO1302	H30S0	Semivolatiles (SVOAs)/PCBs	Soil	10/28/2011	16:40	3	8 oz glass		Y
	SSSO1306	H30S1	Volatiles (VOAs)	Soil	10/28/2011	10:45	2	4 oz glass		
	SSSO1306	H30S1	Semivolatiles (SVOAs)/PCBs	Soil	10/28/2011	10:45	1	8 oz glass		
	SSSO1402	H30S2	Volatiles (VOAs)	Soil	10/28/2011	13:30	2	4 oz glass		Y
	SSSO1402	H30S2	Semivolatiles (SVOAs)/PCBs	Soil	10/28/2011	13:30	1	8 oz glass		Y
	SSSO1702	H30S3	Volatiles (VOAs)	Soil	10/28/2011	18:25	2	4 oz glass		
	SSSO1702	H30S3	Semivolatiles (SVOAs)/PCBs	Soil	10/28/2011	18:25	1	8 oz glass		
	SSSO8902	H30S6	Volatiles (VOAs)	Soil	10/28/2011	13:30	2	4 oz glass		
	SSSO8902	H30S6	Semivolatiles (SVOAs)/PCBs	Soil	10/28/2011	13:30	1	8 oz glass		
	SSSO9902	H30T8	Volatiles (VOAs)	Soil	10/28/2011	16:40	2	4 oz glass		

Special Instructions: Results to jeff.miller@urs.com, amy.k.gray@urs.com

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

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USEPA
DateShipped: 11/1/2011
CarrierName: FedEx
AirbillNo:

CHAIN OF CUSTODY RECORD
Smurfit Stone
Contact Name: Jeff Miller
Contact Phone: 720-810-7891

No: 8-110111-145735-0009
Cooler #:
Lab: Spectrum Analytical
Lab Phone: 401-732-3400

Lab #	Location	CLP Sample #	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	SSSO9902	H30T8	Semivolatiles (SVOAs)/PCBs	Soil	10/28/2011	16:40	1	8 oz glass		
	SSSW89	H30W9	Volatiles (VOAs)	Surface Water	10/29/2011	9:00	3	40 ml VOA	HCl	
	SSSW89	H30W9	Semivolatiles (SVOAs)	Surface Water	10/29/2011	9:00	2	1 liter amber		
	SSSW89	H30W9	Aroclors	Surface Water	10/29/2011	9:00	2	1 liter amber		
	SSGW03	H30X2	Volatiles (VOAs)	Ground Water	10/28/2011	9:10	3	40 ml VOA	HCl	
	SSGW03	H30X2	Semivolatiles (SVOAs)	Ground Water	10/28/2011	9:10	2	1 liter amber		
	SSGW03	H30X2	Aroclors	Ground Water	10/28/2011	9:10	2	1 liter amber		
	SSGW04	H30X3	Volatiles (VOAs)	Ground Water	10/27/2011	14:05	3	40 ml VOA	HCl	
	SSGW05	H30X4	Volatiles (VOAs)	Ground Water	10/27/2011	17:25	3	40 ml VOA	HCl	
	SSGW07	H30X6	Volatiles (VOAs)	Ground Water	10/28/2011	11:37	3	40 ml VOA	HCl	
	SSGW07	H30X6	Semivolatiles (SVOAs)	Ground Water	10/28/2011	11:37	2	1 liter amber		

Special Instructions: Results to jeff.miller@urs.com, amy.k.gray@urs.com

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time		Items/Reason	Relinquished By	Date	Received by	Date	Time

USEPA
DateShipped: 11/1/2011
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CHAIN OF CUSTODY RECORD
Smurfit Stone
Contact Name: Jeff Miller
Contact Phone: 720-810-7891

No: 8-110111-145735-0009
Cooler #:
Lab: Spectrum Analytical
Lab Phone: 401-732-3400

Lab #	Location	CLP Sample #	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	SSGW07	H30X6	Aroclors	Ground Water	10/28/2011	11:37	2	1 liter amber		
	SSGW08	H30X7	Volatiles (VOAs)	Ground Water	10/28/2011	18:50	3	40 ml VOA	HCl	
	SSGW08	H30X7	Semivolatiles (SVOAs)	Ground Water	10/28/2011	18:50	2	1 liter amber		
	SSGW08	H30X7	Aroclors	Ground Water	10/28/2011	18:50	2	1 liter amber		
	SSGW10	H30X9	Volatiles (VOAs)	Ground Water	10/28/2011	14:10	9	40 ml VOA	HCl	
	SSGW10	H30X9	Semivolatiles (SVOAs)	Ground Water	10/28/2011	14:10	6	1 liter amber		
	SSGW10	H30X9	Aroclors	Ground Water	10/28/2011	14:10	6	1 liter amber		
	SSGW11	H30Y0	Volatiles (VOAs)	Ground Water	10/28/2011	17:20	3	40 ml VOA	HCl	
	SSGW11	H30Y0	Semivolatiles (SVOAs)	Ground Water	10/28/2011	17:20	2	1 liter amber		
	SSGW11	H30Y0	Aroclors	Ground Water	10/28/2011	17:20	2	1 liter amber		
	SSGW12	H30Y1	Volatiles (VOAs)	Ground Water	10/29/2011	10:20	3	40 ml VOA	HCl	

Special Instructions: Results to jeff.miller@urs.com, amy.k.gray@urs.com

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CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time		Items/Reason	Relinquished By	Date	Received by	Date	Time

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CHAIN OF CUSTODY RECORD
Smurfit Stone
Contact Name: Jeff Miller
Contact Phone: 720-810-7891

No: 8-110111-145735-0009
Cooler #:
Lab: Spectrum Analytical
Lab Phone: 401-732-3400

Lab #	Location	CLP Sample #	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	SSGW12	H30Y1	Semivolatiles (SVOAs)	Ground Water	10/29/2011	10:20	2	1 liter amber		
	SSGW12	H30Y1	Aroclors	Ground Water	10/29/2011	10:20	2	1 liter amber		
	SSGW18	H30Y7	Volatiles (VOAs)	Ground Water	10/27/2011	10:23	3	40 ml VOA	HCl	
	SSGW23	H30Z2	Volatiles (VOAs)	Ground Water	10/29/2011	12:45	9	40 ml VOA	HCl	Y
	SSGW23	H30Z2	Semivolatiles (SVOAs)	Ground Water	10/29/2011	12:45	6	1 liter amber		Y
	SSGW23	H30Z2	Aroclors	Ground Water	10/29/2011	12:45	6	1 liter amber		Y
	SSGW24	H30Z3	Volatiles (VOAs)	Ground Water	10/29/2011	13:50	3	40 ml VOA	HCl	
	SSGW24	H30Z3	Semivolatiles (SVOAs)	Ground Water	10/29/2011	13:50	2	1 liter amber		
	SSGW24	H30Z3	Aroclors	Ground Water	10/29/2011	13:50	2	1 liter amber		
	SSGW25	H30Z4	Volatiles (VOAs)	Ground Water	10/29/2011	13:20	3	40 ml VOA	HCl	
	SSGW25	H30Z4	Semivolatiles (SVOAs)	Ground Water	10/29/2011	13:20	2	1 liter amber		

Special Instructions: Results to jeff.miller@urs.com, amy.k.gray@urs.com

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CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time		Items/Reason	Relinquished By	Date	Received by	Date	Time

USEPA
DateShipped: 11/1/2011
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AirbillNo:

CHAIN OF CUSTODY RECORD
Smurfit Stone
Contact Name: Jeff Miller
Contact Phone: 720-810-7891

No: 8-110111-145735-0009
Cooler #:
Lab: Spectrum Analytical
Lab Phone: 401-732-3400

Lab #	Location	CLP Sample #	Analyses	Matrix	Collected	Sample Time	Numb Cont	Container	Preservative	MS/MSD
	SSGW25	H30Z4	Aroclors	Ground Water	10/29/2011	13:20	2	1 liter amber		
	SSGW26	H30Z5	Volatiles (VOAs)	Ground Water	10/29/2011	11:50	3	40 ml VOA	HCl	
	SSGW26	H30Z5	Semivolatiles (SVOAs)	Ground Water	10/29/2011	11:50	2	1 liter amber		
	SSGW26	H30Z5	Aroclors	Ground Water	10/29/2011	11:50	2	1 liter amber		
	SSGW89	H30Z7	Volatiles (VOAs)	Ground Water	10/29/2011	14:10	3	40 ml VOA	HCl	
	SSGW89	H30Z7	Semivolatiles (SVOAs)	Ground Water	10/29/2011	14:10	2	1 liter amber		
	SSGW89	H30Z7	Aroclors	Ground Water	10/29/2011	14:10	2	1 liter amber		
	SSGW99	H30Z8	Volatiles (VOAs)	Ground Water	10/29/2011	11:55	3	40 ml VOA	HCl	
	SSGW99	H30Z8	Semivolatiles (SVOAs)	Ground Water	10/29/2011	11:55	2	1 liter amber		
	SSGW99	H30Z8	Aroclors	Ground Water	10/29/2011	11:55	2	1 liter amber		
	SSSW99B	H3139	Volatiles (VOAs)	Surface Water	11/1/2011	13:00	3	40 ml VOA	HCl	

Special Instructions: Results to jeff.miller@urs.com, amy.k.gray@urs.com

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time		Items/Reason	Relinquished By	Date	Received by	Date	Time

USEPA

DateShipped: 10/28/2011

CarrierName: FedEx

AirbillNo:

CHAIN OF CUSTODY RECORD

Smurfit Stone

Contact Name: Jeff Miller

Contact Phone: 720-219-7891

No: 8-102711-155412-0004

Cooler #:

Lab: ALS Laboratory Group

Lab Phone: 801-266-7700

Lab #	Sample #	Location	Analyses	Matrix	Collected	Numb Cont	Container	Preservative	MS/MSD
	41926-0001	SSSO0102	Dioxins / Furans	Soil	10/26/2011	1	8 oz glass		
	41926-0002	SSSO0202	Dioxins / Furans	Soil	10/25/2011	1	8 oz glass		
	41926-0003	SSSO0302	Dioxins / Furans	Soil	10/25/2011	1	8 oz glass		
	41926-0004	SSSO0402	Dioxins / Furans	Soil	10/25/2011	1	8 oz glass		
	41926-0005	SSSO0502	Dioxins / Furans	Soil	10/25/2011	1	8 oz glass		
	41926-0007	SSSO0602	Dioxins / Furans	Soil	10/25/2011	1	8 oz glass		
	41926-0009	SSSO0702	Dioxins / Furans	Soil	10/26/2011	1	8 oz glass		
	41926-0010	SSSO0716	Dioxins / Furans	Soil	10/26/2011	1	8 oz glass		
	41926-0011	SSSO0802	Dioxins / Furans	Soil	10/26/2011	1	8 oz glass		
	41926-0012	SSSO0816	Dioxins / Furans	Soil	10/26/2011	1	8 oz glass		
	41926-0025	SSSO1502	Dioxins / Furans	Soil	10/25/2011	1	8 oz glass		
	41926-0026	SSSO1602	Dioxins / Furans	Soil	10/25/2011	1	8 oz glass		
	41926-0028	SSSE01	Dioxins / Furans	Sediment	10/24/2011	1	8 oz glass		
	41926-0029	SSSE02	Dioxins / Furans	Sediment	10/24/2011	1	8 oz glass		
	41926-0030	SSSE03	Dioxins / Furans	Sediment	10/24/2011	1	8 oz glass		
	41926-0031	SSSE04	Dioxins / Furans	Sediment	10/24/2011	1	8 oz glass		
	41926-0032	SSSE05	Dioxins / Furans	Sediment	10/24/2011	1	8 oz glass		
	41926-0033	SSSE06	Dioxins / Furans	Sediment	10/24/2011	1	8 oz glass		
	41926-0034	SSSE07	Dioxins / Furans	Sediment	10/24/2011	1	8 oz glass		

Special Instructions: 7-day TAT, results to jeff.miller@urs.com, amy.k.gray@urs.com

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time		Items/Reason	Relinquished By	Date	Received by	Date	Time

USEPA
DateShipped: 10/28/2011
CarrierName: FedEx
AirbillNo:

CHAIN OF CUSTODY RECORD
Smurfit Stone
Contact Name: Jeff Miller
Contact Phone: 720-219-7891

No: 8-102711-155412-0004
Cooler #:
Lab: ALS Laboratory Group
Lab Phone: 801-266-7700

Lab #	Sample #	Location	Analyses	Matrix	Collected	Numb Cont	Container	Preservative	MS/MSD
	41926-0035	SSSE08	Dioxins / Furans	Sediment	10/25/2011	1	8 oz glass		
	41926-0036	SSSE09	Dioxins / Furans	Sediment	10/25/2011	1	8 oz glass		
	41926-0037	SSSE10	Dioxins / Furans	Sediment	10/25/2011	1	8 oz glass		
	41926-0049	SSGW01	Dioxins / Furans	Ground Water	10/26/2011	2	1 liter amber	NaS2O3	
	41926-0050	SSGW02	Dioxins / Furans	Ground Water	10/26/2011	2	1 liter amber	NaS2O3	
	41926-0061	SSGW13	Dioxins / Furans	Ground Water	10/26/2011	2	1 liter amber	NaS2O3	
	41926-0062	SSGW14	Dioxins / Furans	Ground Water	10/26/2011	2	1 liter amber	NaS2O3	
	41926-0063	SSGW15	Dioxins / Furans	Ground Water	10/26/2011	2	1 liter amber	NaS2O3	
	41926-0064	SSGW16	Dioxins / Furans	Ground Water	10/26/2011	2	1 liter amber	NaS2O3	
	41926-0065	SSGW17	Dioxins / Furans	Ground Water	10/26/2011	2	1 liter amber	NaS2O3	
	41926-0075	SSGW27	Dioxins / Furans	Ground Water	10/25/2011	2	1 liter amber	NaS2O3	
	41926-0039	SSSW01	Dioxins / Furans	Surface Water	10/24/2011	2	1 liter amber	NaS2O3	
	41926-0040	SSSW02	Dioxins / Furans	Surface Water	10/24/2011	2	1 liter amber	NaS2O3	
	41926-0041	SSSW03	Dioxins / Furans	Surface Water	10/24/2011	2	1 liter amber	NaS2O3	
	41926-0042	SSSW04	Dioxins / Furans	Surface Water	10/24/2011	2	1 liter amber	NaS2O3	
	41926-0043	SSSW05	Dioxins / Furans	Surface Water	10/24/2011	2	1 liter amber	NaS2O3	
	41926-0044	SSSW06	Dioxins / Furans	Surface Water	10/24/2011	2	1 liter amber	NaS2O3	
	41926-0045	SSSW07	Dioxins / Furans	Surface Water	10/24/2011	2	1 liter amber	NaS2O3	
	41926-0046	SSSW08	Dioxins / Furans	Surface Water	10/25/2011	2	1 liter amber	NaS2O3	

Special Instructions: 7-day TAT, results to jeff.miller@urs.com, amy.k.gray@urs.com

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time		Items/Reason	Relinquished By	Date	Received by	Date	Time

USEPA
DateShipped: 10/28/2011
CarrierName: FedEx
AirbillNo:

CHAIN OF CUSTODY RECORD
Smurfit Stone
Contact Name: Jeff Miller
Contact Phone: 720-219-7891

No: 8-102711-155412-0004
Cooler #:
Lab: ALS Laboratory Group
Lab Phone: 801-266-7700

Lab #	Sample #	Location	Analyses	Matrix	Collected	Numb Cont	Container	Preservative	MS/MSD
	41926-0047	SSSW09	Dioxins / Furans	Surface Water	10/25/2011	2	1 liter amber	NaS2O3	
	41926-0048	SSSW10	Dioxins / Furans	Surface Water	10/25/2011	2	1 liter amber	NaS2O3	

Special Instructions: 7-day TAT, results to jeff.miller@urs.com, amy.k.gray@urs.com

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

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USEPA
DateShipped: 11/1/2011
CarrierName: FedEx
AirbillNo:

CHAIN OF CUSTODY RECORD
Smurfit Stone
Contact Name: Jeff Miller
Contact Phone: 720-810-7891

No: 8-110111-143345-0007
Cooler #:
Lab: ALS Laboratory Group
Lab Phone: 801-266-7700

Lab #	Sample #	Location	Analyses	Matrix	Collected	Numb Cont	Container	Preservative	MS/MSD
	41926-0006	SSSO0514	Dioxins / Furans	Soil	10/27/2011	1	8 oz glass		
	41926-0008	SSSO0612	Dioxins / Furans	Soil	10/27/2011	1	8 oz glass		
	41926-0013	SSSO0902	Dioxins / Furans	Soil	10/27/2011	1	8 oz glass		
	41926-0014	SSSO0916	Dioxins / Furans	Soil	10/27/2011	1	8 oz glass		
	41926-0015	SSSO1002	Dioxins / Furans	Soil	10/27/2011	1	8 oz glass		
	41926-0017	SSSO1102	Dioxins / Furans	Soil	10/27/2011	1	8 oz glass		
	41926-0018	SSSO1110	Dioxins / Furans	Soil	10/27/2011	1	8 oz glass		
	41926-0021	SSSO1302	Dioxins / Furans	Soil	10/28/2011	3	8 oz glass		Y
	41926-0022	SSSO1306	Dioxins / Furans	Soil	10/28/2011	1	8 oz glass		
	41926-0023	SSSO1402	Dioxins / Furans	Soil	10/28/2011	1	8 oz glass		
	41926-0024	SSSO1702	Dioxins / Furans	Soil	10/28/2011	1	8 oz glass		
	41926-0027	SSSO8902	Dioxins / Furans	Soil	10/28/2011	1	8 oz glass		
	41926-0038	SSSO9902	Dioxins / Furans	Soil	10/28/2011	1	8 oz glass		
	41926-0051	SSGW03	Dioxins / Furans	Ground Water	10/28/2011	2	1 liter amber	NaS2O3	
	41926-0052	SSGW04	Dioxins / Furans	Ground Water	10/27/2011	2	1 liter amber	NaS2O3	
	41926-0053	SSGW05	Dioxins / Furans	Ground Water	10/27/2011	2	1 liter amber	NaS2O3	
	41926-0055	SSGW07	Dioxins / Furans	Ground Water	10/28/2011	2	1 liter amber	NaS2O3	
	41926-0056	SSGW08	Dioxins / Furans	Ground Water	10/28/2011	2	1 liter amber	NaS2O3	
	41926-0058	SSGW10	Dioxins / Furans	Ground Water	10/28/2011	6	1 liter amber	NaS2O3	Y

Special Instructions: Results to jeff.miller@urs.com, amy.k.gray@urs.com

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time		Items/Reason	Relinquished By	Date	Received by	Date	Time

USEPA

DateShipped: 11/1/2011

CarrierName: FedEx

AirbillNo:

CHAIN OF CUSTODY RECORD

Smurfit Stone

Contact Name: Jeff Miller

Contact Phone: 720-810-7891

No: 8-110111-143345-0007

Cooler #:

Lab: ALS Laboratory Group

Lab Phone: 801-266-7700

Lab #	Sample #	Location	Analyses	Matrix	Collected	Numb Cont	Container	Preservative	MS/MSD
	41926-0059	SSGW11	Dioxins / Furans	Ground Water	10/28/2011	2	1 liter amber	NaS2O3	
	41926-0060	SSGW12	Dioxins / Furans	Ground Water	10/29/2011	2	1 liter amber	NaS2O3	
	41926-0066	SSGW18	Dioxins / Furans	Ground Water	10/27/2011	2	1 liter amber	NaS2O3	
	41926-0071	SSGW23	Dioxins / Furans	Ground Water	10/29/2011	6	1 liter amber	NaS2O3	Y
	41926-0072	SSGW24	Dioxins / Furans	Ground Water	10/29/2011	2	1 liter amber	NaS2O3	
	41926-0073	SSGW25	Dioxins / Furans	Ground Water	10/29/2011	2	1 liter amber	NaS2O3	
	41926-0074	SSGW26	Dioxins / Furans	Ground Water	10/29/2011	2	1 liter amber	NaS2O3	
	41926-0076	SSGW89	Dioxins / Furans	Ground Water	10/29/2011	2	1 liter amber	NaS2O3	
	41926-0077	SSGW99	Dioxins / Furans	Ground Water	10/29/2011	2	1 liter amber	NaS2O3	
	41926-0078	SSSW89	Dioxins / Furans	Surface Water	10/29/2011	2	1 liter amber	NaS2O3	
	41926-0019	SSSO1202	Dioxins / Furans	Soil	10/27/2011	1	8 oz glass		

Special Instructions: Results to jeff.miller@urs.com, amy.k.gray@urs.com

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time		Items/Reason	Relinquished By	Date	Received by	Date	Time

Due Date: Nov 11, 2011

Due Time: 12:00pm

Job #: LR-0228

RES 223677

Reservoirs Environmental, Inc.

REI LAB

5801 Logan St. Denver, CO 80216 • Ph: 303 964-1986 • Fax 303-477-4275 • Toll Free :866 RESI-ENV

SUBMITTED BY:	INVOICE TO: (IF DIFFERENT)	CONTACT INFORMATION:	
Company: URS Operating Services	Company:	Contact: Jeff Miller	Contact:
Address: 1099 18th St, ste 710, Denver, CO 80202	Address:	Phone: 303-291-8212	Phone:
		Fax 303-291-8296	Fax
		Cell/pager: 720-219-7891	Cell/pager:
Project Number and/or P.O. #: 36549107		Final Data Deliverable Email Address: jeff.miller@urs.com; invoice to james.park@urs.com	
Project Description/Location:			

ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm

PLM / PCM / TEM ____ RUSH (Same Day) ___ PRIORITY (Next Day) __X_STANDARD
(Rush PCM = 2hr, TEM = 6hr.)

CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm

Metal(s) / Dust ___ RUSH ___ 24 hr. ___3-5 Day

RCRA 8 / Metals & Welding Fume Scan / TCLP ___ RUSH ___ 5 day ___10 day ****Prior notification is required for RUSH turnarounds.****

Organics ___ 24 hr. ___ 3 day ___5 Day

Turnaround times establish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional fees apply for afterhours, weekends and holidays.

Special Instructions: __Point-count PLM for trace results

REQUESTED ANALYSIS

VALID MATRIX CODES

Air = A; Bulk = B; Dust = D; Paint = P; Soil = S; Wipe = W; Drinking Water = DW; Waste Water = WW; Other = O

****ASTM E1792 approved wipe media only****

LAB NOTES:

	Client sample ID number (Sample ID's must be unique)	PLM - Short report, Long report, Point Count	TEM - AHERA (Level II), 7402, ISO, +/-, Quant, Semi-quant, Micro-vac, ISO-Indirect Preps	PCM - 7400A, 7400B, OSHA	DUST - Total, Respirable	METALS - Analyte(s) ____ RCRA 8, TCLP, Welding Fume, Metals Scan	ORGANICS - BTEX, MTBE, 8260, GRO, DRO	OTHER -	Sample Volume (L) / Area	Matrix Code	# Containers	Date Collected mm/dd/yy	Time Collected hh/mm a/p	EM Number (Laboratory Use Only)
1	SSGW10	X	X						1L	O	1	10/28/2011	14:10	819302
2	SSGW12	X	X						1L	O	2	10/29/2011	10:20	
3	SSSO0202	X								S	1	10/25/2011	14:47	4
4	SSSO0302	X								S	1	10/25/2011	15:15	5
5	SSSO0102	X								S	1	10/26/2011	9:05	6
6														
7														
8														
9														
10														
11														
12														
13														

Number of samples received: 5 (Additional samples shall be listed on attached long form.)

NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

Relinquished By: Date/Time: 11/4/11 10:22

Laboratory Use Only
Received By: Date/Time: 11.4.11 1020 Carrier: Hand

Sample Condition: On Ice Y/N Intact Y/N
Temp. (F°) ____ /N

Results:	Contact	Page	Phone	Email	Fax	Date	Time	Initials	Contact	Page	Phone	Email	Fax	Date	Initials
	Contact	Page	Phone	Email	Fax	Date	Time	Initials	Contact	Page	Phone	Email	Fax	Date	Initials

11-11-11 @ 11:39

1083